Rural New Zealand~ What Next?

Edited by
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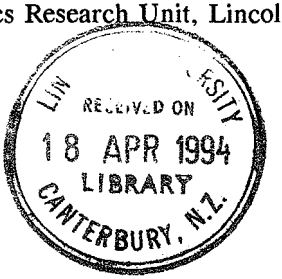

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Preface

"All is yet molten, mercurial. There are more departures to make than precedents to follow. To have a history may be an old land's glory and safeguard; to make history is a new land's perilous employment."

New Zealand Herald (1925)

This book is about what might lie ahead for rural New Zealand - its people, its resources and its institutions. In discussing issues and events surrounding people who produce, process and market New Zealand's food and fibre products, it outlines many of the choices presented by the future.

Several New Zealanders have written of turning points in the country's commercial, cultural, social and political thought, pointing to the 1890s, the 1930s, World War II, and the 1970s as critical periods when this happened. We may now be at another crossroads.

Over the past decade or so, and particularly since 1984, there have been many changes in rural areas. While these are important to note, one must watch not to exaggerate their current importance when longer term influences may, ultimately, be the more important ones to consider.

Fifty years ago, Henry Belshaw, in a definitive work of the times, saw the situation surrounding the nation's agriculture as: a cost-price squeeze on farmers, excess production that looked to diminishing export markets and increased international protectionism; lower farm incomes and profits; and forced farm liquidation and amalgamation as constant concerns for those people who were left. There was a growing awareness that internal policies would have to bear the burden of rural readjustments.

A parallel situation confronts New Zealand today, although many of the causal influences are different. Technological progress on a global scale and the accelerating interdependence of nation groups both raise

special issues for island economies like New Zealand. Three oil shocks catapulted world energy prices upwards in 1974 and 1979, and downwards in 1980. Communication improvements have shrunk established geographic boundaries. Time has become a different dimension than it was 50 years ago.

This book poses an array of topics and analyses about the effect of these changes on rural New Zealand. It does not endorse any particular forecast. Rather, it offers options to think about and different points of view on the same issue. Its interest is not limited to those people who work and live on their land - and love it. It is also directed to those who make their livings based on using rural resources: the processing firms, tourist and recreation operations, and all individuals who enjoy the land and waters of this country.

The authors mention many things but do not resolve any. They are not presumptious enough to do that. In an era of increasing choice it is important to know how choices come about, what the consequences of decisions are, and to whom the benefits and costs of those actions accrue. Knowledge of trade-offs is important. For example, if one selects a particular course of action - political isolationism, a certain building code, a pattern of Government "incentives", one kind of health plan, or a specific conservation or environmental protection programme - other courses of action are, at least temporarily, precluded. To make a sound choice, one needs to be aware of what might happen by taking one path as opposed to another.

A more informed New Zealand public will become increasingly aware of the outcome of any manuoevring by private interests or policy makers. Knowledge means moving toward a consciously chosen goal rather than drifting. It means not being misled by the speeches of those wishing to exert power over rural areas for their own gain. It means moving towards an ever more capable and effective agricultural leadership for New Zealand.

The focus of this work is on offering insights into how New Zealand's food and fibre system works, and what the physical points are which connect that system and make it work.

Recognising these inter-relationships is the key to understanding questions such as why consumers are upset about food quality and food safety; why Government programmes to 'help' agriculture have by and large failed; why we and the Governments of other nations are upset about trade policies; why environmentalists and many farmers are confused about the 'right' long run course for using the nation's natural

resources; why the education and research establishment has such trouble anticipating the next round of emerging technical, institutional or political issues; and why there is wide concern for the survival of rural communities.

The book begins with a brief discussion of the macro-forces influencing New Zealand's rural areas, emphasising that their future course, largely influenced by international considerations, will also be increasingly impacted by domestic non-farm policies and actions initiated, in main, by urban residents. Whether directly or indirectly, these forces will affect the costs and productivity of all farms, processing, distribution and food retailing firms.

The second section reviews the farm production and technology base. It describes the complex relationships between producer, agribusiness, consumer, Government and environmental interests within the system. In the same way as agriculture is, itself, affected by larger forces, it affects other parts of the economy. When farm incomes slip, less fertiliser and machinery is purchased. This reduces incomes of farm suppliers who live in rural areas. When unemployment in a rural community occurs it, in turn, affects other facets of rural living. It can lead to reduced public services, notably education and health, cause changes in the attitude of rural people towards people living in cities and positions of public power; and exert negative 'domino' effects on other rural communities. The continuous systematic weaving of research, information and analysis is pointed out to be crucial to any successful rural business or community.

The changing patterns of farm size and ownership, types of farms, the farm people themselves, and the rural workforce are shown as reflecting much of this weaving and communication of ideas. The use of farm capital and how the rural sector avails itself of credit underscores thoughts on the increasing competition for natural resources by farmers and non-farmers alike.

A third section reviews the demand for food and fibre, dealing with domestic demand, international trade and international relations.

A fourth section survey the structure of agriculture, adding to what has already been said about farms and farm income. The agribusiness component is presented in order to create increased awareness of its structure, conduct and performance.

A picture of the markets is offered in section five to show what specific markets do, how they behave, and what changes the future might

hold for them. The wholesale/retail food situation, advertising and promotion are presented to show that ultimately the food and fibre system is consumer driven not producer directed as so many farmers now believe. The role of producer boards is examined in details, and options to them are presented.

A sixth section covers the role that Government plays in facilitating New Zealand's agricultural politics and policy. What are the 'politics of agriculture' and 'intervention'? Is regulation always useful, or are there times when it actually retards economic and social advance?

These questions are again analysed from domestic and international perspectives; again contrasting views are presented. One author presents an argument for 'going back', while others question not only the basis of this thesis but also the effects of the 'fortress-New Zealand' approach.

A final section outlines some of the other major emerging or persisting issues confronting rural areas in the decade ahead: the importance, and difficulties, of trying to differentiate an agricultural product; the rise of an active rural feminine consciousness concerning effective equality of participation; property rights issues with a focus on Maori and pakeha concerns about land and fishing; the important role of personal values in planning and executing land and water use programmes; the long run effectiveness of currently in vogue user-pay programmes; and whether or not separate policies to resolve the many concerns of rural New Zealand should be considered.

In each section we try to identify the forces leading to the present situation, and indicate the consequences of alternative choices for the future. From this exposure we hope to show that:

1. agriculture is a business as well as a life style whether we like it or not;
2. that farms and agribusiness are increasingly influenced by non-farm policy decisions; and
3. that managers of successful food and fibre system firms must be ever aware of how their income and lifestyles, and those of their employees, are influenced by Government policy and private sector reactions to it.

The ideas presented here are sometimes conflicting. This has been deliberate. There are differences of interpretation of the evidence and opinion as to the type of society New Zealanders want and the risks they are prepared to take. The editors would also not like to be first in breaking with tradition in making it appear that all economists agree. Why should we? Not all farmers do.

Inasmuch as this book is a success it will be because you, the readers, will have made it so by absorbing and discussing the points made by the contributors - bringing out many more not covered in these pages, and airing them too, for thoughtful consideration.

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Section I

Macro Forces

Chapter 1

Overview of New Zealand Agriculture

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New Zealand is often regarded as an agricultural country, especially by people abroad for whom its exports are its most familiar economic feature. But the justification for such a characterisation is far from obvious. By 1970, agriculture employed about the same share of the total labour force in New Zealand as it did in many other countries, including some rich ones in western Europe, and a much smaller share than was usual in the poorer countries of the world. The share of agriculture in national income, however, was larger in New Zealand than in most countries with comparable income levels; output per person in agriculture was not less than the economy-wide average as it was in most rich countries. That was what made agriculture of more economic importance in New Zealand than in most OECD countries; it was not an activity preserved for non-economic reasons, a cost to the economy to be kept to tolerable limits, but an activity where the productivity of labour was at or above that available in other countries.

This was less obvious than the role of agriculture in exports, but there is nothing intrinsically meritorious about producing goods for other countries; the essence of economic activity is to use resources to produce goods and services which people wish to buy, whether the whole process occurs in one country or partly in one and partly in another. The common suggestion in New Zealand that exports were especially desirable was a shorthand way of saying that the demand for imports was higher than could readily be financed, and that this could be alleviated by higher exports. Thus, the claims for a special economic role for agriculture were essentially a reflection of the foreign exchange

constraint which the economy was perceived to be experiencing, together with the observation that goods able to compete in international markets were more readily produced by agriculture than by other sectors of the economy.

These comments seemed to have acquired permanence as a description of the macroeconomic context of agriculture in the New Zealand economy. However, a major change in policy occurred in 1984. Nevertheless to understand the current context of agriculture, it is necessary to analyse more closely the earlier setting, including the changes which did occur within it.

Full employment and Import substitution

The macroeconomic context of the 1950s and 1960s can be traced back at least to 1938. The response of the First Labour Government to the Depression of the 1930s included a determination to strengthen local control of the economy, and its early measures included guaranteed prices for dairy produce. The more extreme notion of separating incomes for dairy farmers from world trade trends through a trade agreement with the United Kingdom was quickly found to be impracticable, but some income smoothing could be achieved by using reserve accounts to average overseas prices into less volatile local pay-outs. In 1938, a balance of payments crisis was met by the imposition of import licencing and exchange controls. The Labour Government wanted to avoid any repetition of the Depression experience of deflation, and direct controls could be portrayed as part of its policy to increase the power of local decisions over economic fortunes. 'Insulationism' was a not unreasonable characterisation of the policy.

It was World War II rather than direct controls which ended the balance of payments crisis of 1938. Wartime conditions limited imports while most of New Zealand's agricultural exports were demanded in Britain. The war also led to the extension of direct controls into many parts of the economy. So it did in other countries, but controls were usually seen as wartime emergency measures whereas in New Zealand they seemed to be part of a deliberate economic policy. During the war years, officials and politicians in New Zealand, as in other countries, absorbed the lesson of Keynesian economics that fiscal policy could be used to balance aggregate demand and supply in the economy as a whole, and that the budget was not merely a matter of government housekeeping. But this was grafted on to an economy where official controls were widespread and not regarded as a transitory phenomenon.

In the post-war years, import licencing was seen as the most significant control, and it was related especially to the achievement of full employment. It was commonly believed that full employment was maintained through government deficit spending, prevented from spilling into the demand for imports by import licencing, and so achieving full employment at the expense of inflation and a misallocation of resources.

This analysis was at least defective. Import licencing had much more effect on the composition of imports than on their total. The total of imports was not a major influence in the administrative system used to allocate import licences while licences were readily available for materials needed for employment-generating factories and were restricted mainly for consumer goods. Furthermore, the Government's internal financial transactions did not have a significant deficit before the 1970s. Nor for that matter was New Zealand's inflation out of line with that experienced in those countries which were major trading partners until the 1970s.

The basic mechanism for the achievement of full employment was therefore not that of the common analysis. Rather it owed more to buoyancy of private investment. The role of import licences was precisely that the system restricted the possibility of imports which competed directly with local production. Investment for the local market was therefore rendered secure; even if it was somewhat optimistic, population growth and at least constant per capita income would soon justify or ratify the investment decision while the market could not be taken by competitive imports. Fiscal and monetary policy could be used to iron out temporary deviations from a balance of exports and imports, as in 1957-58 and 1961, but Government's powers would normally preserve a reasonable return to private investment.

Import licencing is now regarded with disfavour, but it is important to recognise that full employment was achieved in the 1950s and 1960s. It is always difficult to calculate the average effective protection conferred by a licencing system because it is necessary to know the cost at which goods could have been landed in New Zealand. The best estimates are that the average effective protection to industry was a little over 50 percent in the mid-1950s and early 1970s, and over 70 percent in the mid-1960s but the calculations for the groups of years are not entirely comparable and are subject to wide margins of error. It can be concluded that the average degree of protection was not particularly high by world standards; the frequent assertions to the contrary result from comparisons with a limited range of countries, those of the OECD where industry was less protected than agriculture. It remains possible

that lower protection rates would have produced a more efficient use of resources.

The distribution of the protection conferred by import licencing on individual industries was haphazard. It is difficult enough to co-ordinate tariff protection since it depends on duties on inputs and the proportion of material inputs to the value of the final product as well as on the duties levied on goods which compete with the final product. But a tariff system does leave it open for importers to respond to changes in overseas costs whereas a licencing system does not. The distribution of protection levels among industries shows no coherent pattern and is explicable mostly in terms of changes in costs of production overseas of final goods excluded from the New Zealand market.

Variations among firms within industries were revealed when manufactured exports grew in the early 1970s. Exporters were competitive at least with Australia; some were large firms and some were small; there were some in all categories of industries while many other firms required high levels of protection to survive at all. The licencing system impeded the ability of efficient producers to draw resources from the less efficient, an ability that would have existed to a greater extent under a tariff system even if it gave the same average level of protection.

Debate about import licencing proceeded throughout the 1950s and 1960s but analysis such as that stated bluntly here could not make much headway against the assertions that licencing was less inflationary than tariffs, and that licencing was an instrument of social control. The former argument overlooks the ability to use the revenue from tariffs to reduce taxes elsewhere. It is also clear from the premiums paid for companies with a licencing entitlement that monopolistic positions conferred by licences were exploited although it is likely that a sense of social responsbility and a business climate of less than cutthroat competition did exercise some restraint in the 1950s and 1960s. Nor is there much evidence of social control in the use of licences. Protection was spread among industries without the knowledge of relative levels which was needed to make sensible decisions about the public interest. Most importing decisions were private ones, as they had been in pre-licencing days; they were guided by governments only to a preference for industrial inputs over finished goods. That could have been achieved by differential tariffs and any further assistance to individual enterprises judged to be especially desirable could have been provided in some form of bounty.

The debate about import licencing was really a debate about the place of industry in the New Zealand economy. It was far from wholly

economic. Industry was wanted for several reasons, including a misplaced belief that it was the only path to modernisation, but a sound argument was that New Zealand should provide a range of opportunities so that its population could develop and use a variety of aptitudes and skills. The issue which should have been debated was whether the opportunities for personal development which were being created were costing as little as possible, or whether more could have been achieved in agriculture-related activities which did not need protection. But debate seldom moved beyond the free trade versus protection discussion of the nineteenth century which indeed included even the argument that tariffs provided opportunities for development of a range of personal abilities.

While most attention was focused on industry and urban services, agriculture was not stagnant. 'Insulationism' gave way to a desire for export growth and those exports for a long time were seen almost exclusively as the produce of agriculture. Institutions such as the Marketing Department, which was responsible for separating local and international prices, were revised to become producer boards with promotion of exports as their principal function (although they continued to operate price-smoothing schemes). The key concept was diversification, the underlying idea being that exports could be increased by finding new export products and new export markets. The reality was that Britain's economy was growing less rapidly than those of other countries while the British government reserved more of the British market for British farmers. Diversification was essentially finding different products which could be sold in markets other than that of Britain.

Diversification met with considerable success in the 1960s. Lamb continued to be sold to Britain, but mutton was sold in markets such as that of Japan and beef was sold in Japan and the USA Butter and cheese ceased to be the only significant dairy products exported as the industry produced casein and non-solid-fat products for Japan and the Pacific Basin. Horticultural exports grew mainly in the 1970s when the traditional sale of apples and pears to Britain were joined by kiwifruit and berries sold in North America and other northern hemisphere markets where the seasons for local producers did not coincide with those of New Zealand. Bigger markets were also found for hides, skins, pelts, sausage casings and tallows. There was also expansion of other fish exports in the exploitation of crayfish resources in the late 1960s. Even forestry exports owed a great deal to primary production in that log sales to Japan were important although more attention was given to pulp and paper. The contribution to diversification of more clearly manufactured products remained small until the 1970s.

The 1970s

Some farming leaders and some economists were dissatisfied with the economy which evolved in the 20 years after the end of World War II. But it was not intellectual or sectional criticism of the established resource allocation which promoted change. Rather it was realisation in the course of the 1960s that New Zealand's economic growth was not as great as was being achieved in other countries. Faster growth was being achieved not only as a matter of postwar recovery or the particular circumstances of Japan, but in a range of European countries which were reaching income levels above that of New Zealand. The engine of growth was identified as international trade in manufactured goods, fostered by the lowering of trade barriers, and New Zealand was not participating in that process. Diversification was not enough. Too many countries imposed barriers to agricultural trade, and the constant likelihood through the 1960s that Britain would join the EEC and accept its preference of local agriculture added impetus to the belief that New Zealand manufacturing should be redirected from the provision of employment to direct relief of the foreign exchange constraint.

Attention was also directed towards the exchange rate. A devaluation was used in 1933, primarily to redistribute income towards exporters (who were almost entirely farmers) and this was reversed in 1948 when the balance of payments position was buoyant and revaluation was seen as a suitable response to inflationary import prices. Thereafter, in the international context of the Bretton Woods system of fixed exchange rates, New Zealand generally maintained parity between its currency and sterling. Devaluation was sometimes advocated as an instrument for promoting exports relative to imports but it was not favoured. Within the Bretton Woods system, devaluation was often seen as political failure. Furthermore, in New Zealand, the arbitration system tended to keep average wage rates in line with inflation, and there was genuine doubt over whether a devaluation could affect the real exchange rate or would be negated by compensating wage and price movements. Nevertheless, throughout the 1960s, there was increasing concern about the effect of overvaluation of New Zealand's currency on the balance of exports and imports.

Freer trade with Australia had been negotiated in the earlier 1960s, mainly at the urging of the pulp and paper industry. But the procedures were cumbersome and progress was slow. In early 1967, some senior officials came close to persuading the government to devalue in order to make exporting more attractive. The government withdrew, mainly at the urging of the British Chancellor of the Exchequer, who feared pressure on sterling, but when sterling was devalued in November,

1967, the opportunity was taken to reduce the value of the New Zealand dollar to equality with the Australian dollar.

It took some time for the growth of exports of manufactured goods, primarily to Australia and the Pacific Basin, to become significant. Markets had to be established and developed. Furthermore, the growth of manufactured exports had been trumpeted for some time and so reports of success generated some scepticism, especially as much of the increase in their value could be traced to the Tiwai Point aluminium smelter which also generated substantial offsetting imports of alumina and other materials. In the early 1970's, exports of traditional agricultural products also expanded. It only later became clear that meat exports had risen at the expense of longer-term livestock investments as farmers judged the favourable effect of devaluation on the ratio of product prices to internal costs to be unlikely to persist. Nor was it immediately apparent how much was due to an international commodity boom rather than to specifically New Zealand developments.

By the end of the 1970s, however, there had been a significant switch to non-traditional exports. There was still some validity in the observation made about aluminium exports in that non-traditional exports required more imports than traditional ones, so that the gains in net foreign exchange were only two-thirds to four-fifths of the apparent gain in export receipts. Nevertheless, the nature of the economy was significantly changed. Whereas in 1966 Professor Blyth could cogently argue that much of New Zealand's history could be written in terms of 'creaming off' some of the output of farming to support industries and services, by the end of the 1970s a real economic problem was persuading farmers that it was not worth their while expanding production at all.

The attempt to expand new exports ran into unexpected obstacles. In 1973, OPEC chose to force a considerable redistribution of the world's income in its favour. The markets for New Zealand's exports in the industrialised and oil-importing countries contracted sharply and were not readily replaced in the more wealthy oil-producing countries. Furthermore, as an oil importer, New Zealand shared in the relative loss of income.

Unemployment increased and the levels of the second half of the 1970s and early 1980s dwarfed those of the first half of the 1970s which themselves were markedly different from the years of full employment. The policy response to the 1973 oil price rise was to spread the required income reduction over several years. Slow growth over a longer period was preferred to a sudden reduction in incomes, overseas borrowing

being used to gain time as was recommended by most international authorities concerned to recylce 'petrodollars' as part of a worldwide adjustment mechanism. But the international economy was more depressed in the mid to late 1970s than had been expected, especially because not all countries honoured the international understandings. It was therefore difficult for New Zealand to keep to schedule.

For a variety of reasons, including the traditional opposition of Labour voters to overseas borrowing, there was a change of government in November, 1975. The new government sought a quicker solution to the balance of payments deficit and this required slower growth of New Zealand's national income including National Superannuation, commendable enough in itself especially for people not already included in an inflation-proofed superannuation scheme, but in conjunction with other elements such as the use of tax rebates to support exporters, it required levels of personal taxation beyond what were readily acceptable. The community sought levels of disposable income beyond the available supply of goods and services and from the mid 1970s New Zealand's inflation rate significantly exceeded that of its main trading partners. This was combined with unemployment, albeit less than in most OECD countries.

By the late 1970s, there was no longer a widespread belief that government policy would ratify investment decisions. On the contrary, there were always worries that the government would find it necessary to dampen demand in the search for balance of payments equilibrium or in an effort to combat inflation. In the 1960s, many economists called for more flexibility in government policy in order to balance aggregate demand and supply throughout the year rather than in an annual set-piece budget. In the late 1970s, there were more minibudgets but attempts at fine-tuning were swamped by a loss of belief in the power of the government to control the economy.

Furthermore, inflation proved to have a much bigger impact on investment than expected. Indexation, mostly informal but nonetheless effective, moderated the effects of inflation on the distribution of incomes although less so for farmers than for most sections of the community. But the direct effect of inflation on growth was greater than expected. Inflation created uncertainty, especially about future output and input prices on which the profitability of investment depended. Uncertainty was greatest in respect to long-term growth of real output. This was reinforced by the tax system which made capital gains much more attractive than increased income flows. In addition, concentration on the short term diverted resources to essentially unproductive uses like refinancing short-term debt, making applications to regulatory agencies

for price increases, and so on. Private investment was therefore low, and a countervailing increase in public investment was not sufficient to generate the aggregate demand demanded to avoid unemployment.

Public investment was dominated by 'think big' or the 'growth projects'. The value of New Zealand's hydrocarbon sources, and indeed of all energy, increased in sympathy with the world oil price and it was sensible to exploit them. But policy was dominated by ideas of independent sources of energy rather than by optimal resource allocation. The 'growth projects' were the centrepiece of a political strategy but their integration with the course of private investment was less than convincing. There was little attention to imports and overall adjustment to the changed international context. There was much talk of 'structural change' but the movement of resources into areas where they made most contribution to national income was slow. Existing uses seemed to be offered protection by government intervention.

Agriculture was caught up in the loss of direction in the late 1970s and early 1980s. In the 1960s various tax incentives were used to promote new forms of exports. A strong sense of fairness was among the reasons why some tax concessions were also extended to farmers but they were kept mostly to areas which could be defended as drawing an appropriate line between social and private benefits. Thus the most important were related to land development, although some were used to encourage farmers to believe that price fluctuations were temporary and that farm decisions should look to the longer term. In the 1970s, however, such sophistication was largely abandoned and 'supplementary minimum prices' (SMPs) were little more than indiscriminate subsidies to farm exporters. They were rapidly incorporated into land values and substantially captured by suppliers of farm inputs and processors of farm products. Their greatest economic defect, however, was that they removed any incentive to farmers to respond to the changed international environment. The optimal decision for farmers was to continue to produce traditional products, knowing that their returns were determined by SMPs more than by world prices.

'Protection all round' is a phrase often associated with Australia in the 1920s, but it also reasonably applied to New Zealand in the early 1980s. The level of the overseas debt, which had seemed worrying to many in 1975, was much greater by 1983 and projection of current trends produced really worrying scenarios. New Zealanders wanted levels of consumption being observed overseas, but the economy was not producing the goods and services which would support it. A wage and price freeze disguised inflation and produced a surge of growth, but private decision-makers did not have sufficent confidence in the future to

undertake the resource reallocation needed for a fundamental change in the economic outlook. Extraordinary interest rate controls meant that entrepreneurial effort was further directed towards evading official limitations rather than to effecting economic reorganisation.

Recent changes

By the early 1980s, it was clear to many economists and officials that significant changes were required. The Economic Monitoring Group of the New Zealand Planning Council commented in December, 1983:

> In recent years, while world incomes have grown slowly, New Zealand has stagnated. In order to sustain consumption levels and to promote development of our energy resources, the Government has engaged in overseas borrowing to a much greater extent than formerly. The borrowing has undoubtedly kept employment and incomes higher than they would otherwise have been, even though unemployment has increased while incomes have not grown much. Unfortunately, it seems to the Monitoring Group that the economy has not used the time adequately when consumption was supported by borrowing, to get into a position from which it could meet our income aspirations while financing needed imports by our exports. The cost of servicing our overseas debt seems to the Monitoring Group to have reached the position where it would be unwise to continue to rely on borrowing for the purpose much longer. It is therefore necessary to find ways of speeding up the internal adjustment to our international environment...

And in a subsequent publication, the same group argues:

The main aspects of this requirement for adaptability will be as follows:

(a) To ensure that the price signals received by businessmen (in particular) are those that reflect the situation in the real world. This will enable them to make more soundly based decisions in regard to investment, production and sales.
(b) There will be a greater role for the exchange rate in relaying overseas realities into the New Zealand economy. This will call for greater flexibility in the use of the exchange rate as a total economic management and development.
(c) Greater flexibility will be required in labour markets both in regard to mobility and income levels. This will clearly have implication for the level and patterns of consumption.

Similar conclusions had been reached by other analysts, especially those within Treasury, and the election of a new government in July, 1984 created the political environment in which a change of direction could be implemented.

There are, of course, many questions which can be directed to the new policy environment. Some sections of the economy can respond more quickly than others; there is room for debate whether the removal of government assistance has been even-handed across different sectors of the economy; and the line between interventions to preserve valued aspects of New Zealand society and assistance to particular interest groups is not clear-cut. But government policy in recent years has been much more directed towards the efficient use of New Zealand resources than it was in the 1970s. Many farmers have been disturbed because agriculture and exporting no longer rank highly in official and government rhetoric. But the change is not that all of agriculture has been downgraded; rather it is that Government favour extends only to those aspects of agriculture and exporting which are efficient relative to New Zealand's place in the international economy.

This central change is now well established in New Zealand's political economy. Farming does not have the political power to reverse even if the leaders of the sector were so minded. The economic consequences of a reversal in terms of the loss of international confidence and the stifling of enterprise are too great to be contemplated. The pace of change is, however, still open to debate. It is never easy to find the right path between too much haste which leads only to confusion and too slow a pace which allows change to be stifled as particular interests merely absorb pressure and protect their positions. It is however, difficult to see that a slower pace could prevent the distinctions which are arising between areas within agriculture according to the extent to which they have the ability and will to adapt to changing market situations. Similarly, it would be possible to change the relative emphasis of the various components of the central policy shift. For example, a greater reliance on fiscal policy relative to monetary policy would probably put relatively more of the burden of adjustment on to domestic consumption and less on the tradeables sector of the economy including farming; unemployment would probably be higher but the average exchange rate would be more favourable to exporters of farm produce. This is the level of policy at which debate should be focused, but again, whatever path is chosen, the experience of farming is likely to be diverse, with the same criterion of adjustment to the world environment being pre-eminent.

Chapter 2

Agriculture in New Zealand's Economy

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Arguably, agriculture has been the single most important factor in shaping New Zealand's economy. Yet the intricacies of its influence on the macroeconomy have not been fully explored.

Agriculture in New Zealand covers arable and pastoral farming plus horticulture. Its scope could be extended to include silviculture and parts of hunting, fish farming, and tourism, since farmers are also involved in those areas.

When considering agriculture in the macroeconomy one should include those industries which supply farmers or process farm production. Indeed there are some industries, producing fertiliser, agriculture and livestock chemicals, farm equipment manufacturers, together with stock and station agents, which exist almost solely to provide farm inputs. Similarly meat and dairy processing and some parts of the textile industries exist only to process farm raw materials. Many industries are substantially dependent upon the farm sector (Guthrie and Lattimore, 1984).

This wider definition of agriculture explains why the industry is so important, despite its apparent small proportion of total national output. According to the Government statistician the net output of the agricultural market production group (sometimes called the "farming sector") was 7.4 percent of Gross Domestic Product (GDP) at market prices in 1984/85. The food, beverages, and tobacco manufacturing group net output was another 6.9 percent.

The employment generation of the agricultural sector may be gauged from Table 1. Column 1 shows the direct employment in the agricultural sector as 117.8 thousand in 1986/87, or about 9 percent of the New Zealand labour force.

In addition there are jobs created by the initial purchase of farm inputs and family spending, plus the further rounds of purchases and spending thus generated. The employment multipliers associated with these backward linkages are shown in Column 2. Column 3 shows that including the backward linkages, the agricultural sector covers 348,000 jobs or about 28 percent of the of the labour force.

Butcher also estimates multipliers for the forward linkages for dairying, meat and some wool processing. When these are included (Table 1, columns 4 and 5) they give a sector total of around 571,000 jobs or 46 percent of the nation's labour force.

Table 2 shows that, in the year ending June 1985, 57 percent of exports of goods and services came from categories readily identified with the agricultural sector. This excludes chemicals generated from the agricultural sector (e.g. casein), farm equipment and farm services (e.g. consulting, software) which would raise the true proportion to about 60 percent.

There is a danger here, of under emphasising the contribution of import substitution relative to that of exporting. Given that, broadly, the same quantity of resources is used for each dollar produced, then each is equally valuable to the economy. And since the agricultural sector also produces domestically-used products, it is an import substitutor.

As foreign exchange is concerned, possibly the appropriate measure is the net foreign exchange earning of the sector. This has not been measured with precision but, noting that the share of the sector in employment creation (and probably economic activity) is slightly smaller than its share in exporting, it seems likely that the whole sector is a small net foreign exchange generator.

Table 1: **Direct and Indirect Employment Generation, Agricultural Sector**

	Jobs Direct 000's	Employment Multiplier (backward linkages)	Total Jobs 000's	Employment Multiplier (forward linkages)	Total Jobs 000's
Dairy & cattle	49.2	3.0	148	5.6*	273
Sheep	38.4	3.2	122	5.8	223
Cropping	7.9	3.2	25	3.2	25
Fresh Fruit & vegetables	13.5	2.0	27	2.0	27
Other Farming services	8.8	2.6	23	2.6	23
Total Employment	117.8		348		571

Source: Butcher, 1985

* Butcher calculates 4.2 for Dairying but that excludes Dairy Beef

Table 2: **Exports in Year Ended June 1985**

Classification	$m	%
Food and Live Animals	5,090	37.8
Beverages and Tobacco	.27	.2
Crude Materials - Farm Based	19.80	14.7
Mineral Fuels etc.	100	.7
Animal and Vegetable Oils	129	1.0
Chemical and Related Products*	593	4.4
Manufactured Goods		
Farm based	396	2.9
Other	1,326	9.9
Machinery and Transport Equipment*	416	3.1
Miscellaneous Manufactured Articles	413	3.1
NEI and re exports	413	3.1
Non Merchandise Exports *, **	2,144	15.9
**TOTAL Merchandise and Non-Merchandise Exports ** **	13,460	100.0

Source: NZ70B, 1986

Notes: * includes some agricultural sector exports
** estimated from SNA

Table 3: **The Agricultural Sector over time: Shares in Total Economy (percent)**

	Year			
	1959/60	1965/6	1971/2	1976/7
Real Net Output				
Input-supply	3	3	2	1
Farming	14	12	9	9
Processing, Distribution & Retail	12	11	10	11
TOTAL	29	26	21	21
Employment				
Input-supply	3	3	3	3
Farming	13	12	10	8
Processing, Distribution & Retail	16	15	15	15
TOTAL	32	30	28	26
Export				
Input-Supply	na	na	na	na
Farming	26	22	11	10
Processing, Distribution & Retail	52	48	50	48
TOTAL	78	70	61	58

Source: Guthrie and Lattimore (1984)

Guthrie and Lattimore (1984) provide some assessment of the changing significance of the sector. They identify a group of agricultural sector industries, and calculate their economy-wide share of net output, employment and exports for the four selected years (Table 3).

The agricultural sector's share of economic activity has decreased, as other sectors (such as forestry, fishing, manufactured exporting, and tourism) have expanded. Nevertheless it still remains the largest sector in the economy.

Agriculture in the World Economy

The agricultural sector is intimately involved in the world economy, and its activities have dominated the current revenue side of the external activities. Indeed the agricultural sector is one of the main channels through which the world economy affects the New Zealand economy.

Until a few decades ago almost all New Zealand exports were pastoral products in various degrees of processing. Today pastoral exports remain the dominant component of agricultural exports although there has been considerable diversification.

The international agricultural economy is primarily a grain one, with livestock trade at its periphery. Moreover, the Northern Hemisphere livestock industry is primarily grain-fed, contrasting with the grass-fed livestock of New Zealand, Australia and Latin America. Thus the New Zealand pastoral industry is very much on the periphery. However, in international trade of those pastoral products, New Zealand is a major participant for two reasons: first, New Zealand is a substantial producer of dairy products, sheep and cattle meats, and crossbred wool; second, many Northern Hemisphere livestock producers receive considerable protection (most often by means of quotas), so that the international market is small relative to its total production. Ultimately New Zealand is a major supplier to the small international market for most pastoral products.

There is considerable Northern Hemisphere dumping into these markets, and there is a recognition that, as a significant supplier, New Zealand can drive prices against producers. (The recent decision by the New Zealand Dairy Board to restrict entry into dairy farming is symbolic of this recognition).

They have fallen since the peak in the early 1950s (Wilson and Easton, 1984). Some people say that the fall only really began in 1966, or began for different products at different times (e.g. dairy products late

1950s, wool 1966, meat mid-1970s). A falling price indicates that the supply of a commodity is growing faster than its demand. The slow-growing demand can indicate many things: a low world disposable income, a change in preference, substitution from other products (e.g. margarine, synthetic fibres, white meats).

The Consequences on Farming of Changes in the Terms of Trade

The broad details of the mechanism by which the pastoral terms of trade affect the sector are known, even though the details are not. It is noticeable that aggregate farm profitability has been deteriorating at least since the mid- 1960s (O'Dea and Horsfield 1982; Easton, 1983; Grimmond and Kay, 1983), although it was obscured by fluctuations in the terms of trade, by Government subsidisation, and by complex interactions between inflation, land prices and taxation.

The reasons why New Zealand went into a high inflation phase in the early 1970s are also complex, but one (partial) explanation might be that a fall in the terms of trade involves a change in price relatives and, given the downward tendencies of prices in New Zealand, it is hard to envisage adjustment to an external downward price shock without a considerable rise in the average price level. Once inflation is underway, prices become much less effective signals. A taxation system, such as New Zealand's where investment income is treated differently if it is a capital gain rather than a nominal return, adds to the turmoil. In such an environment, land prices were rising faster than general prices, even though farm profitability was falling. Interest rates were also rising. Thus farming appeared to be maintaining profitability if the capital gains on land were included. But such perversity was only possible at the expense of buying land at over-valued prices. Optimism, borrowing on inflated land values and Government subsidisation could put off the day of reckoning, but ultimately (or in New Zealand's case from 1984) land prices began to fall, and the weak profitability of the farm sector became apparent.

While a closed economy can experience business cycles, it is accepted that the main source of fluctuations in New Zealand is the external sector. In the past, variations in the pastoral prices have been the main external influence, although in recent years the world business cycle's effect on manufactured exports and the oil shocks have also been important.

Consider a rise in pastoral export prices. This will show through in higher incomes to farmers. There will not be an immediate major supply response, although slaughter rates may rise a little and a second

shear introduced, or as when wool was a pound for a pound in 1950, children may collect wool off barbed wire fences. The additional income will be spent generating jobs in the remainder of the agricultural sector. Indeed the multipliers may be higher because the additional spending and easier access to credit generates additional investment. The ensuing taxation may also induce the Government to spend more.

A typical sequence could go something like this. Increased Government spending could lead to a minor 'boom' and a desire of people to import items. Increases in imports could, in turn, offset increases in pastoral prices, result in a national credit drain, and thereby reduce the balance of payment surplus. If the Government reaction is to reduce its spending, the economic upswing weakens, the cycle turns downwards, pastoral prices fall, and the entire economy begins to contract. Some of these factors have been evident since 1985.

What is interesting about the New Zealand business cycle is that the upswing and the downswing are usually brief, typically one quarter or at the most, two. While it would be wrong to completely ignore the imports, we are nonetheless, left with the strong impression that the major determinant of the ability of the New Zealand economy to grow has been the ability of its export sector to generate revenue.

Agriculture and Economic Growth

It is not difficult to see why a healthy external sector should facilitate economic growth. It is at the top of the business cycle that physical and human capital is being most increased, resources redeveloped and management busy. Providing that economic strength is not compromised by a deterioration in the balance of payments and/or inflation the outcome will be to raise the productive capacity of the economy. The longer the period of economic strength the greater will be the ensuing growth.

Thus, as well as directly contributing to economic growth through raising its own productivity, the farm sector acts as a leader inducing productivity growth into the rest of agriculture and therefore in the rest of the economy.

Philpott and Nana (1986) have provided some estimates of the growth performance of the New Zealand economy from 1959/60 to 1983/4 (Table 4). These figures may underestimate the volume of growth of some sectors, particularly the service sector (Easton, 1987). Nevertheless the conclusion is clear - the farm and agricultural processing sectors have among the highest productivity responses to

technology of any in the economy. Using a finer breakdown, only electricity (3.6 percent p.a.) and communications (4.4. percent p.a.) show greater improvement.

Table 4: **Sectoral Measure of Productivity Performance, 1959/60 - 1983/84 (Change % p.a.)**

	Average Net Product		Technological
	Labour	Capital	Residual
Agriculture (Farming)	3.2	2.5	3.0
Food and Beverages	4.1	1.6	3.3
Forestry & Processing	2.2	1.7	2.0
Other Manufacturing	1.0	-2.2	-.2
Energy	5.0	1.4	2.6
Construction	1.8	-.3	1.0
Transport & Communication	2.6	1.5	2.3
Services	.1	-.9	-.4
TOTAL	1.2	-.9	-.4

* includes fishing

Source: Philpott and Nana (1986)

The most detailed assessment we have of the future of agriculture in the macroeconomy comes from the National Sectoral Programme of the New Zealand Planning Council which reported six different scenarios for the two years, 1990 and 1995. To reduce the complexity let's focus on two of them.

The first scenario, called the 'calibration run', was made after asking different industry groups what they thought would be significant export performance levels for them. There was sufficient detail in these forecasts to explore policy consequences and it soon became evident that, despite what may be judged as modestly favourable assumptions about the pastoral terms of trade, there was a need for a substantial increase in export subsidies, above the level prevailing in 1981/2, to enable the sectors to attain the export targets.

This was thought unlikely, so a second run called the 'current policy re-run' was prepared. This run assumed export performance was constrained by profitability. Not surprisingly the levels of pastoral exports were now lower than the sectors could achieve; indeed they were forecast as lower than the 1985 levels.

Table 5 summarises the two runs. Under the calibration run the economy grows at 3.4 percent p.a., with an export volume increase of 5.7 percent p.a. Pastoral exports make a very small contribution to this growth (with expectations of a decline in wool exports), although horticulture and agricultural based manufactures are shown as growing quickly. Profitability to attain this goal requires that there be a six percent export subsidy. That an export subsidy is necessary does not imply the forecast is unorthodox. It is well-established that under certain assumptions, a judicious selection of interventions can increase GDP.

The current policy re-run shows a somewhat slower GDP growth of 2.9 percent p.a., and a much slower export volume increase of 2.5 percent p.a. The exportable sector share of the economy diminishes, and pastoral exports decline. The story the run appears to be telling us is that, in order to attain the required profitability without export subsidies, the exportable sector must contract, which might raise overseas prices and perhaps also increase productivity.

These are not projections which will be readily acceptable by all. However, rather than dismissing them, let us consider what might be investigated in the future.

First, researchers already have looked at the significance of introducing modest tariff protection in the current policy re-run. There

is not a lot of difference in a non-protection run, if anything pastoral exports are a little lower.

Second, researchers have experimented with an assumption 'that world market conditions operate in such a way as to raise New Zealand export prices relative to world prices ... we assume the increase in export prices applies equally across all export commodities'. Surprisingly the high export prices run again is not markedly different from the current policy re-run.

Nonetheless it would be worth refining this investigation. The forecasts are telling us that in the early 1980s the pastoral sector was over-extended; that farming was unprofitable without substantial export subsidies; and that a different economic picture with a smaller pastoral sector would have made more money. If the farm base is still too large, farming may be facing a prolonged squeeze, much longer than most observers currently expect.

What we may take from all this is that there is a need to carry out some urgent investigation into these issues. It could be that the problem is in current research estimates, or it could be that the research has picked up a serious underlying weakness in farming's ability to produce in existing cost, price and technological conditions.

Table 5: **The NSP Projections to 1995**

	Base Year	1995 Calibration Run		1995 Current Policy Re-Run	
Exports (G & S)	$m 1982 (1985)	$m 1982		$m 1982	
Dairy	1192	1324	(1.1)	1034	(-1.4)
Meat	1565	1677	(.7)	1296	(-1.9)
Wool	1042	919	(-1.2)	773	(-2.9)
Horticulture	352	1230	(13.3)	1050	(11.6)
Other Food	539	1533	(11.0)	861	(4.8)
Textiles	444	1177	(10.3)	780	(5.8)
Remainder	4622	9702	(7.7)	6755	(3.9)
Total Exports	9756	17062	(5.7)	12549	(2.5)
Output (Gross)	(1982)				
Agriculture	5229	8309	(3.6)	7369	(3.4)
Other Food	6281	8767	(2.6)	7847	(1.8)
Textiles	2618	3965	(4.2)	3887	(4.0)
GDP	29155	44843	(4.3)	42241	(3.8)
Capital - Stock in Use)	(1982)				
Agriculture	19920	20830	(2.1)	21334	(.7)
Other Food	3950	5151	(2.7)	4343	(1.0
Textiles	887	832	(-.6)	775	(-1.3)
Entire Economy	110064	158289	(3.7)	149889	(3.1)
Employment	(1982) '000	'000		'000	
Agriculture	129.6	170.7	(2.1)	156.2	(1.4)
Other Food	75.5	102.2	(3.0)	93.4	(2.1)
Textiles	45.0	43.8	(.1)	44.3	(.1)
Entire Economy	1284	1636	(2.4)	1636	(2.4)
Memoranda	(1982)				
Pastoral Terms of Trade	1000	890		na	
Terms of Trade	1000	982		1100	
Real Exchange Rate	1000	1084		1120	
Mean Export Subsidy	2.6%	6.0%		0%	
Mean Tariff Equivalent	14.9%	0%		4.3%	

Source: NSP (1986)
Note: (Numbers in brackets are annual increase (% p.a.) since base year)

The Future of Agriculture

While the magnitudes which arise out of the National Sectoral forecast may be wrong, the broad directions seem right - agriculture's share in the macroeconomy will continue to decline, and pastoral farming may contract in absolute terms. However, given the difficulties the industry is currently experiencing and the likelihood that agricultural subsidies will not be reinstated, perhaps we should not be surprised.

One may even argue that the forecasters were optimistic. They have followed the practice of the last 20 years of forecasting a modest upturn in the pastoral terms of trade which actually have continued to deteriorate. There is perhaps a strong prospect of a continuing fall, particularly if there is no major reversal in Northern Hemisphere farm protectionism. Within the next decade there may be some moderation in the intervention, including reductions in dumping into third markets. Nevertheless, world supply of pastoral commodities seems likely to continue to rise faster than world demand (at a given price). As New Zealand is a significant supplier, changes in its supply will affect the world supply schedule and hence the price.

This diminishing share for agriculture will in some ways be to its benefit. Increasingly it will share responsibility for macroeconomic performance and management. For instance, the overall impact of any pastoral terms of trade shock from the Australian and other manufacturing economies and from oil will become more important. While the overall impact of shocks from the external economy may not change much, their immediate effect will be shared with others and as a result, should be spread more evenly through the economy.

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Section II

Production Resources and Technology

Chapter 3

Innovation, Information and Communication

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An important characteristic of New Zealand agriculture is that our successful farming systems have been developed locally. Information and communication systems between farming and extension, education and research have played a critical role in that development. It is worthwhile analysing how these systems have worked in the past lest enthusiasts for new doctrines should throw away unthinkingly the key to adaptability.

The British people who settled in New Zealand in the middle of the last century were well-informed about British agriculture which was reaching its zenith after undergoing 100 years of revolution. The British were recognised as the world leaders in agricultural technology. Farming settlers brought with them the skills of horsemanship, shepherding, stockmanship, and those general rural skills which were essential for the daunting task of breaking in this country. They also brought with them improved farm animals - fast-walking Clydesdales, strong-eyed Border collies, footrot-resistant Romneys, the hardy Aberdeen Angus and the small butter-producing Jersey, all of which were to play crucial roles in the development of New Zealand agriculture.

However, the farming systems which were so successful at 'home' proved almost useless here. There was no market in New Zealand for the mixture of products flowing out of the English Four-Course Rotation and similar farming systems developed in Britain. British agriculture had blossomed because of the demand for food from the growing urban

population which was half a world distant from New Zealand. Sailing-ship transport was very expensive and the technology of shipping frozen meat and dairy products was still 30 years away. The settlers on the east coasts of both islands borrowed the wool-growing system from across the Tasman, running their Merinos extensively on the native tussock grassland. Just before 1900 the price of wool crashed, forcing some run-holding settlers to adopt the wheat-growing technology from the North American prairies using John Deere's ploughs, McCormick's binders, and tin threshing mills. This wheat-growing boom collapsed after World War I because of low prices and also because continuous cropping had exhausted the natural soil fertility.

In this century New Zealanders have increasingly evolved their own unique farming systems. Dairying, hill sheep and cattle farming, and, more recently, deer farming and kiwifruit growing, are all examples of indigenous farming systems which suit our environment. They are emulated by farmers with similar environments elsewhere around the world.

In contrast few industrial processes used in New Zealand have been developed here. A Christchurch dry-cleaning plant is almost identical to dry-cleaning plants in New York or London. A New Zealand tyre factory uses the same plant as its overseas parent company used a few years previously. World industrialists do not beat a path to New Zealand to see the latest and greatest in manufacturing. World farmers do come to New Zealand to find out what their most efficient competitors are up to.

The business of information transfer in industry tends to be traded like 'a private good' with the emphasis on patent rights, process licencing, and buying the services of consultants. By contrast the information and communication process in New Zealand agriculture is co-operative. Farmers, extension workers, and researchers have cooperated in the free exchange of information which has been an important factor in the establishment of world-recognised farming systems.

At one end of the information process, New Zealand innovators have always made all the information they have acquired available to anyone. While few farmers do applied research, farming innovators carry out the equivalent of what in industry is called new product development by applying their own ideas and ideas from research to build or improve their farming systems. Innovators provide free information to agricultural journalists writing up their innovations, extension workers holding field days and lecturers wanting learning experiences for their students. Innovators exchange information with other innovators, with

extension workers and, very importantly, with researchers. At the other end of the information process, DSIR and MAF research stations have always made information freely available to anyone. These government agencies have not restricted the flow of information in order to sell it to recoup research costs. Similarly most MAF extension services have been provided free.

This cooperative approach by farmers towards the flow of information derives from the fact that New Zealand producers are exporters to world markets and do not see themselves as being in competition with one another. The increased production from helping a neighbour with information has but a negligible effect on the supply of product. Hence this assistance will not cause a decline in prices. In contrast most industrial firms are imperfect competitors and have a share of a local market. Helpful technical advice to a neighbouring firm may result in a reduction of market share. Sharing technical information is often not in the firm's interest.

The cooperative approach has also been a feature of the scientific attitude of agricultural researchers employed by the Government. They have seen it as their scientific duty in life to share information with the farming community and with each other. One rationale for the cooperative approach is that information is a public good. The cost of providing information for one farmer is often precisely the same as the cost of providing it for all farmers.

The following hypothetical story provides the reason why research to provide information is sponsored by the Government. An individual farmer cannot justify the cost of carrying out controlled experiments on alternative methods of controlling gorse in a post 245T-free world fit for environmentalists. The cost to a research-minded farmer far outweighs the benefits to him. Yet farmers and others with gorse problems, as a group, would find it worthwhile to pay for gorse control research. Their net expected social benefits will improve if they form a club to pay for gorse research. Farmers with serious gorse problems consider forming such a research club.

Unfortunately, the 'shrewdies' see immediately the merit in refusing to join the club, waiting until the guileless pay for the research, and then finding out how to control gorse when that is discovered. It is neither easy nor desirable to stop information flowing over the farm gate. Once it is rumoured that there are bludgers about who are opting out of the club, fewer and fewer of those with gorse problems volunteer with their subscriptions. Eventually society as a whole agrees that it is the Government's job to chase up piking beneficiaries for their subscriptions

to pay for gorse research. However, this proves to be much easier said than done particularly in identifying those who will benefit in the future but don't have a gorse problem now. Moreover chasing up beneficiaries turns out to be a vote losing exercise. The cost both economically and politically rules out making the beneficiary pay.

Next the Government proposes that it will give chemical companies tax relief for doing research on gorse control. However, farmers grumble that the answer probably lies in biological methods of control rather than chemicals and that they don't want to be continually paying out monopoly prices for patented products evaluated by dubious methods. Taxpayers object to monopoly rights being given to firms whose research they have funded. Moreover, scurrilous newspapers say that companies claim as 'research' funds misused by executives taking attractive people of the opposite sex out to dinner!

All in all it is very difficult under the user pay system to clobber sufficient beneficiaries to fund a socially desirable level of research. Eventually the Government decides to use taxpayers' funds to carry out research on gorse control through the DSIR and the MAF. Subject to some reservations, particularly as to whether or not government departments can execute research efficiently by getting the maximum amount of appropriate information for the money spent, group funding for research seems the appropriate way for society to produce the appropriate amount of a public good like information.

Currently the New Zealand Government faces a large deficit and is searching for ways of reducing expenditure by making the user pay for the services it provides. There is much merit in this concept of the user paying for private goods and services, but user-pay is inappropriate for a public good like research as the example above explains.

It is not possible to be so dogmatic about who should pay for extension which is a most misunderstood activity because it consists of at least three activities. First, there are those extension workers who provide private consulting services. These services produce no spill-over benefits which flow over the clients farm gate. For example, neighbouring farmers get few benefits from an irrigation design drawn up for a client by the agricultural engineer from the MAF. Unless the irrigation design is innovative and entirely new to the district, the only beneficiary will be the farmer client. In other words, irrigation design services are private goods rather than public goods.

Veterinary, engineering and farm management consultations usually come into the category of private services. Most of them are now paid

for by client farmers and this seems appropriate whether they are provided by the private sector or by government departments. If extension activities are seen as being synonymous with consultant services with no spillover benefits, then user-pays is highly appropriate.

A second task undertaken by extension workers is that of taking research results to the farming community. This 'marketing' activity is part and parcel of research and is often executed with the same professional expertise. It is done by either specialist extension workers attached to research stations or by individual research workers with a flair for extension work. Famous New Zealand agricultural scientists have had this flair - Sir Bruce Levy, P.D. Sears, and C.P. McMeekan are the best-known examples. This kind of extension work, which frequently relies on mass and group methods, is very much a public good. The cost of running a field day for one farmer is more or less the same as the cost of running it for 5,000. Along with research it should be paid for by the benefiting group, by the industry, or by the Government. To make the individual beneficiary pay is likely to be counter-productive and expensive to implement.

System-design is the third and most important activity carried out by the best extension workers. Here they collaborate with innovating farmers in assembling the components of new farming systems and sub-systems. This has been the role of the great extension workers of the past. Acknowledged system design extension workers are Bill Stafford for pre-war South Canterbury farming, 'Mac' McKenzie for streamlined North Island dairying, Ernest Neilson for controlled grazing, Eddie Suckling for hill country improvement, and Hugh Kirton for Northland dairying.

It is this third system-design activity which has achieved the largest response for the extension expenditure incurred - the largest bang for the extension buck. System improvement and development has been pursued actively by the consulting officers of the New Zealand Dairy Board working mainly through discussion groups composed of innovating farmers. It was in such a group in the Wairarapa that the concept of large-scale dairying with 500 cows being milked through one herringbone shed was born and subsequently put to the test. This revolutionary idea was contrary to the conventional wisdom of 25 years ago. Then it was held that by the time a herd had reached 150 cows, diseconomies of scale had set in with a vengeance.

It is this crucial area of system-design which is very much at risk from the enthusiast for user-pays. Imagine an extension service which fails to recognise system design as an extension activity and fails to

understand that it is a public good. Those who administer the extension service want every hour of their extension officer's time charged out to a client. An extension worker who in the past had a close relationship with innovators now has to charge them $100 a visit. The innovator estimates that he is unlikely to get $100 of benefit from the extension worker's visit. Hence, the artery between innovators and extension workers is fatally severed.

This severance is perhaps verified by the experience of extension workers previously employed in the public sector who later became fee-charging consultants. Usually these private consultants find themselves cut off from the mainspring of ideas - the innovators. Of course this is not always so.

Having started with a discussion of farming systems of a century ago, it is appropriate to note one of the system changes which has occurred since World War II. The calf- rearing system is a good example of how the cooperative flow of information between farming innovators and research and extension workers has wrought considerable improvements in farming efficiency.

Forty years ago rearing 50 calves was a full-time job for one person for about three months of the year. Now it can take as little as an hour a day to rear 150. In the days of home separation, calves were started on whole milk, switched to skim milk over weeks 3 and 5, and then they were fed skim milk until they were weaned at 16 weeks. Each calf was taught to drink from a bucket which was washed up to Florence Nightingale standards after each of the two feeds a day.

When tanker collection came along, farmers started rearing calves on whole milk which had a high opportunity cost. Some Waikato farmers tried weaning calves at eight weeks instead of 16. To check this practice out, comparisons were made experimentally between early-weaning and late-weaning at the Ruakura Animal Research Station. The early-weaned calves grew almost as well, confirming the experience of the innovators. These experiments were widely 'marketed' at the Ruakura field days and through the media.

More fundamental work was called for because the technical literature held that calves could not digest grass efficiently until they were six months of age because of inadequate rumen development. Ruakura research discovered that the calf rumen was well-developed at eight weeks and, moreover, calves were just as good as adult cows at digesting grass at that age.

Note the close relationship between farmers and research workers: how cooperation resulted in an idea developed by farmers, and it then being confirmed by research and marketed to the industry by extension.

Although the Ruakura research indicated that calves were more robust than had previously been thought, calves were still difficult to rear on pumice soils in spite of rigid adherence to top dressing with cobalt and copper to correct mineral deficiencies in growing animals. Research on white muscle disease in new-born lambs in the South Island was shown to be due to selenium deficiency. This also proved a boon for rearing healthy calves. Here research for the benefit of the sheep industry resulted in gains by the dairy industry.

The amount of labour needed to rear calves was much reduced by the commercial development of rubber teats so that calves could suckle their milk rather than be fed from a bucket. No longer was it necessary to risk bitten fingers from teaching calves to drink. Some discussion group farmers saw immediately the potential of eliminating the time-consuming business of driving calves up to the calf shed for a feed. They inserted 25 teats into a 44-gallon drum which was left in the paddock with the calves. Once a day, milk was tipped into the drum. Cleaning it out was found to be quite unnecessary. This new streamlined calf-rearing system was marketed to the industry through television and the mass media by extension workers.

This example indicates the important contribution that innovative farmers make to the development of new systems. Unfortunately, the amount of money spent by farmers on this activity is not reflected in the statistics for the contribution by farmers to 'R & D'. Governments have argued that farmers should pay half of 'R & D' costs as do some segments of industry. However, this overlooks the informal contribution of innovating activities of farmers.

The tenor of this chapter has indicated that research should be funded by the nation or by some other group of interests because it is a public good. The same applies to extension work which promotes research results and which designs farming systems. On the other hand, consultancy services should be paid for by the user.

This summary might give the impression that there are no serious drawbacks with government funded research and extension. That is not so, there are some serious problems which require urgent policy changes.

It can happen that the objectives of the farming industry sometimes diverge from the objectives of government research workers. What interests a scientist may not have much value to an industry. Compared with older countries, New Zealand has been fortunate to have so many of its scientists with a commitment to farming. For instance, the British scientist may be more attracted by the glittering prize of a Fellowship rather than generating economic gain for farming. New Zealand scientists do not suffer from the feelings of social inferiority in doing applied research work which seems to afflict the class-conscious British.

Moreover, New Zealand agriculture is fortunate to have avoided the extreme divergence in objectives between scientist and businessmen which has arisen in the forestry industry. On the one hand there are some in the scientific community who, as botanists, so love the objects of their study that they cannot bear to see trees cut down, and, on the other, there are commercial foresters who produce social benefits by harvesting trees. A similar divergence has occurred in agriculture between farmers and soil conservators but it has been of lesser moment.

The more serious problems have arisen because of difficulties of managing research and extension under the employment policies for Government and quasi-Government employees. Effective research and extension requires outstanding people rather than large numbers. This implies attracting and holding the key people required in the areas which are expected to produce the greatest benefit.

As an example of this problem, great future opportunities for New Zealand agriculture may well flow from the recent advances in genetic engineering. Little has been done by New Zealand to hire genetic engineers because the egalatarian public service paying scale prevents paying them the market price.

Likewise in extension, MAF have a programme of shifting their extension staff from district to district. Their best men can gain promotion only by becoming administrators. This policy makes it difficult for a MAF extension worker to become a system-designer because it takes time to gain sufficient local experience and mana. The Dairy Board has had a different policy where the outstanding field man could reach higher salaries than those further up the hierarchy.

The converse of attracting the best people into research and extension is the firing of the inadequate. This too is very difficult under current employment policies for government employees.

The management of government research and extension services has also been constrained by the difficulty of moving specialists out of sunset area of industry into sunrise area. The lag in obtaining resources can result in research and extension effort being allocated to a sunset area past its zenith. This lag is because, under Government funding, it takes considerable effort and time to move resources in any new direction. The flow of resources to research can reach its zenith just as the industry reaches its nadir! This is sometimes used to explain the sailing ship paradox - the discovery of how ships sailed was made when steam made sail redundant!

In New Zealand agricultural science, tremendous advances were made in soils and fertilisers in the 1940s and early 1950s when a few scientists with slim resources discovered potassium, sulphur, and molybdenum deficiencies. Their successes generated subsequent research effort in soil research which has so far failed to produce the same early successes. Under government employment policies it is difficult to reduce soil research and transfer those resources into say genetic engineering.

The tendency for success to generate resources for more extension effort rather than for the expectation of more gains has led to massive increases in the number of public servants working in some areas of extension where, in my opinion, the marginal returns from employing less than outstanding people are likely to be meagre. The recent claims that MAF is moving people from extension inside the farm gate to extension effort on the processing side suggests a previous misallocation.

What is required for future policy is not inappropriate recipes like user-pay but the removal of constraints on research and extension administrators so that they can adopt a flexible approach to resource allocation.

No chapter on the future of information and communication is complete without a resounding endorsement of modern electronic technology. At a very low price, the new hardware and software can: store and retrieve high volumes of data quickly, re-estimate statistical parameters using the most sophisticated techniques, and run complex decision models to assist managerial decisions-making.

The management-information systems (MIS) approach to decision making has been used to a limited extent in New Zealand agriculture. The artificial breeding system has used it for a very long time, but it obviously has a place, too in factory farming for producing pigmeat and poultry products. Because of lower costs, these managerial information systems will spread into new areas of agriculture.

However, the benefits of information systems derive from better decisions. Experience with the implementation of operation research models suggests worthwhile gains of five to ten per cent. Hence, we will see more computer use in farming and particularly in industries allied to farming.

However, computers neither dream up new ideas nor take risks. The real gains are most likely to occur at the boundary between new technology and innovative business for developing biological systems for producing new products of increasing sophistication. For this cross-fertilisation to occur the cooperative attitude and mutual respect between science and farming businessmen which has been built up in the past must continue in the future. The farmer and the scientist must be friends!

Chapter 4

Farm Size and Population

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Farm structure means farming's overall character and includes things such as farm type and size distribution, land use and stock numbers. Since the late 1800s, average farm size has had two peaks, one in 1881 and the other in 1976 (Figure 1). In 1881, average farm size was 340 hectares. It was followed by a decline to about 243 hectares, a size which persisted for almost 60 years. However, during 1956-76, average farm size increased to about 324 hectares. These two decades also saw a dramatic decline in farm numbers of about 20,000, or 1,000 farms per year.

However, only reviewing farm size data ignores two important elements of farm structure. The first is the total area of occupied land. It increased steadily to 17.6 million hectares in 1921, and then stayed roughly constant until 1976. For over 50 years changes in the occupied area have not had a significant impact on average farm size.

The second element is the distribution of farm sizes among the total number of farms. From 1886 to 1960 there was an increase in the number of medium-sized farms (Table 1) while the number of small farms declined. Since then the reverse has been true. A new data series available in 1972 shows more detailed information (Table 2). This table shows the number of dairy, sheep/beef and horticulture farms for 1972, 1978 and 1984. The last column shows an increase in total farm numbers of about 14,000 during this 12-year period. The subtotals for each farm size category show a large increase of over 14,000 small

farms showing a slight increase of about 900. The large increase in small farm numbers is in sharp contrast to changes before 1970. This information also implies a movement of farm land out of medium-sized holdings into both small and large-sized farms, and follows an international trend begun shortly after Word War II.

Table 1: **Number of Farms by Size, 1886 to 1960**

	Small Farms 1-49 acres	Medium Farms 50-999 acres	Large Farms over 1,000 ac
1886	16,679	17,882	1,924
1906	31,532	34,012	4,398
1926	29,484	49,282	6,978
1946	25,394	53,919	6,926
1957	22,161	55,711	6,732
1960	11,742*	58,192	7,015

* Farms less than 10 acres not included.

The type-of-farm classification is based on the proportion of income received from farming activities. Despite its problems and the incomplete coverage of commodities, this approach still gives an indication of where New Zealand farmers think farm profitability lies.

Looking at Table 2, we see marked stability in the number of large dairy farms, a decline of almost 3,400 for medium-sized ones, and a resurgence of small dairy operations back to 1972 numbers. Part of this large farm stability can be explained by the significant sums of capital fixed into milking sheds, and the number of years it takes to establish good herd blood lines. Losses of medium-sized dairy farms might be explained simply by their inability to generate sufficient family income in today's economy. The decline and subsequent revival of small-sized

today's economy. The decline and subsequent revival of small-sized dairy farms may be a response to the increase in part-time farming by people who also hold non-farm jobs.

There was an increase of about 2,500 beef/sheep farms during that same period, all of which occurred on farms of less than 20 hectares. Numbers of both medium- and large-sized sheep/beef farms declined. The reasons for the increase in small operations, significant declines in medium-sized farms, and some stability in the larger operations can probably be explained in terms similar to those offered above for changes in dairy farm numbers.

Horticulture presents an entirely different picture. Since 1972, all three farm size grouping have increased. The total number of horticulture farms has almost doubled, with the biggest increase in the less-than-20 hectare category, and the least increase in farms with over 200 hectares.

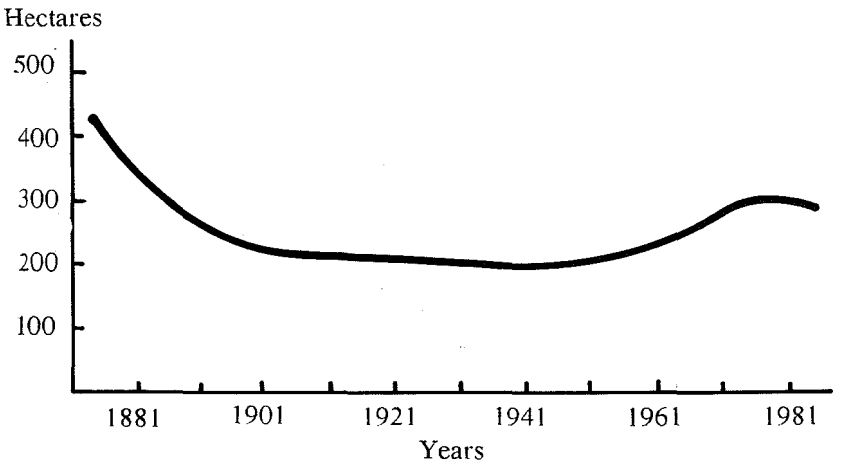

Figure 1: Average Farm Size (in hectares), 1874 to 1983

Table 2: **Number of Farms, 1972 1978 and 1984 by Size and Type of Farm**

Year	Small Farms 1-19 hectares	Medium Farms 20 to 199 hectares	Large Farms over 200 hectares	Total
1972				
Dairy	801	17,661	824	19,286
Sheep/Beef	3,499	15,632	14,436	33,566
Hortl.	2,702	704	47	3,435
Total	8,751	37,489	16,552	62,789
1978				
Dairy	532	15,108	818	16,459
Sheep/Beef	5,950	14,148	14,748	34,846
Hortl.	3,612	845	45	4,532
Total	16,368	35,793	17,240	69,401
1984				
Dairy	820	14,285	824	15,934
Sheep/Beef	7,838	14,206	14,060	36,100
Hortl.	5,505	1,294	52	6,851
Total	22,927	36,295	17,411	76,633

Stock numbers give another indication of changes in types of farming (Table 3). These data parallel many of the changes in farm numbers. For example, stability in large and small dairy farms accompanied high dairy cattle numbers in 1972, slumped in 1972-84, and then resumed the same 1972 peak in 1985. However, with the large decline in the middle-sized grouping, evidence points to a significant increase in average herd size for the remaining larger farms. This, in turn, generally reflects a more intensive use of paddocks, some increased capital expenditures, and a higher level of management.

Beef cattle numbers fell 13 percent in 1972-85, while sheep numbers rose just over 11 percent. This stock substitution is consistent with the increase of both small and large livestock operations.

Deer and goats contain the largest increases, with goats increasing faster than deer. Pig numbers remained constant over this period. Both the growth and stability situations can be fairly easily explained. Pigmeat markets were pretty well established, and with a stable demand there was no reason to change supplies. On the other hand, new markets were being explored and developed for deer and goats. Both animals had been introduced in response to the need for agricultural diversification, and both markets were therefore being pushed to find their limits.

Table 3: **Change in Selected Stock Numbers, Selected Years, 1972-85 (millions)**

	1972	1975	1978	1979	1981	1984	1985
Dairy	3.3	3.0	2.9	-	2.3	3.2	3.3
Sheep	60.9	55.3	62.2	-	5.1	4.5	4.6
Beef	5.3	6.3	5.5	-	5.1	4.5	4.6
Deer	-	-	-	.012	.109	.258	.320
Goats	-	-	-	.008	.068	.230	.427
Pigs	.486	.422	.473	-	.420	.436	.454

Source: Agricultural Statistics, Department of Statistics, Wellington

Land use is yet another indicator of changes in the type of farming (Table 4). Pastoral agriculture, along with horticulture and forestry, shows an overall increase in occupied area from 1972 to 1984. However, the area in pastoral agriculture declined from 1981 to 1984, while the other two categories showed a steady increase from 1972 to 1984. In absolute terms, pastoral agriculture showed the largest increase (excluding the 'other land' category). Forestry showed the largest relative increase which may be partly explained by the enlargement trend seen above in the distribution of farm sizes. The tussock or danthonia category declined by a modest amount presumably as some of this extensive land was brought under cultivation.

In general, Table 4 shows that the most significant land use change is forestry. Pastoral occupation has increased steadily but now is starting to decrease, while horticulture has increased rapidly from a low base. From 1972 to 1978, the total occupied area grew by 2.2 million hectares, and has since stabilised. The addition of cultivated land from

Table 4: **Area in Cultivation, Selected Crops, Selected Years 1972-84 (millions ha)**

	1972	1975	1978	1981	1984	Change 1972-84 ha.	%
Pastoral Agriculture (grassland & lucerne)	8.47	9.23	9.13	9.72	9.42	.95	11
Horticulture (crops, fruit, nursery)	.41	.41	.43	.45	.40	.08	22
Forestry (exotic trees)	.55	.70	.81	.95	1.04	.49	90
Tussock, danthonia	5.06	4.71	4.66	4.45	4.56	.50	10
Other land	4.55	5.90	5.98	5.67	5.71	1.16	26
Total Occupied Land	19.03	20.91	21.23	21.25	21.22	2.19	12

Source: Agricultural Statistics, department of Statistics, Wellington.

tussock or danthonia does not match the increase in the first three types of cultivation. Land previously unaccounted for must have been included in these three categories, just as the area of land has increased for the 'other land' category.

In addition to the increased total agricultural land occupied, urban land uses have increased by over a third since 1967. In that year urban areas contained 277,000
hectares and by 1980 the total had grown to 424,000 hectares. Since then increasing subdivision on the rural/urban fringe has undoubtedly claimed more land for residential or commercial uses.

If present trends continue, the number of both large and small farming operations will increase, but the number of small farms will grow more rapidly than that for large farms. Middle-sized dairy farms are in a definite decline which is likely to continue. However, medium-sized horticultural operations are quite likely to increase, especially as markets are developed.

While sheep and beef numbers have both declined in 1981-85, improved access to overseas markets, and producer response to changing market requirements, could lead to an increase in numbers of both stock. However, if dairy and beef stock numbers follow sheep numbers downwards then the future will see a steady movement from pastoral land use to the alternatives of forestry, horticulture, cash crops, deer and goats. Forestry will tend to occur on large-sized farms; all the other land uses are suitable on small-sized farms. Thus, the future pattern of farm size distribution would continue the trends of subdivision and enlargement. We can expect to see horticulture, cash crops, deer and goats increase in the small-sized holdings.

Main Features of Rural Population Change

The dominant trend in population change for New Zealand is urbanisation. Since 1900, most of the population has been urban, and since 1926 there has been a steady increase in urban population (Table 5).

Urbanisation has included a shift in population concentration from smaller to larger urban centres. Thus, the number of residents in cities of 20,000 persons or more increased from less than half in 1926 to more than two-thirds in 1981 (New Zealand Rural Profile, 1983).

Table 5: **Rural New Zealand Population, 1926-86**

	Population				Percentage Change	
	Urban	%	Rural	%	Urban	Rural
1926	952,102	67.9	449,572	32.1		
1936	1,065,228	67.9	503,885	32.1	11.9	12.1
1945	1,227,069	72.2	472,076	27.8	15.2	-6.3
1951	1,424,745	73.7	508,849	26.3	16.1	7.8
1956	1,625,887	74.9	543,727	25.1	14.1	6.9
1961	1,866,894	77.5	542,525	22.5	14.8	-0.2
1966	2,145,601	80.3	526,507	19.7	14.9	-3.0
1971	2,361,314	82.6	496,171	17.4	10.1	-5.8
1976	2,614,314	83.6	511,004	16.4	10.7	3.0
1981	2,650,904	83.6	520,487	16.4	1.4	1.9
1986*	2,731,947	83.8	527,547	16.2	1.4	1.4

* Provisional Figures

Source: Department of Statistics, 1983.

Despite the decline in the percentage of people living in rural areas between 1926 and 1976, the absolute number of rural residents has increased slightly. This long-term upward trend shows a decline in 1936-45 and in 1956-71. The former break is possibly related to the termination of Depression relief schemes and wartime industrialisation (Department of Statistics, 1983). The latter break is possibly related to the sharp decline in farm numbers that occurred over the same period.

Table 5 does not show regional variations, but using 1986 Census data, results show that the rural population increase is strongly concentrated along the North Island coastline between Opotiki County, in the Bay of Plenty and Mangonui County, in Northland. Twelve of the 26 counties and districts with population increases substantially higher than New Zealand as a whole are located there. In the South Island there is an area of growth on the north-west (Golden Bay, Waimea, and Buller counties) and some localised growth in Lake County (Queenstown) and Vincent County (Cromwell and Clyde).

The areas of decline are more widespread. Most rural counties in central and southern North Island have lost population. In the South

Island this pattern of decline is even more widespread, with the number of areas recording absolute decline outnumbering those with relative decline by two to one.

Population growth is due possibly to economic developments such as tourism, construction, or horticulture in particular counties, or is due to non-economic factors such as climate and environment preferences (Cant, 1986). Population declines are due possibly to changes in primary production or the lack of non-farm employment in rural areas. These factors combine to threaten the viability of rural non-farm businesses and ultimately future population growth.

If present trends continue, there will be an increasingly smaller proportion of total population in rural areas in both the North and South Islands. However, the North Island will continue to hold its 3:1 margin in total population over the South Island.

One factor which may increase rural population in some areas is the upsurge in small holdings (Table 6). At the time of rapid increase in farm size between 1951 and 1971 when total farm numbers declined by over 25,000, the rural population declined by 47,556 people. These data suggest that farm number changes are related to rural population change by a factor of two, and that a decline in farm numbers precedes a drop in rural population by about 5 years.

Table 6: **Changes in Farm numbers and Rural Population**

Year	Farm Numbers	Rural Population
1951-71	-25,348	
1956-71		-47,556
1972-76	292	
1971-76		14,883
1976-81	5,038	9,483
1981-86	2,247*	7,060

* Extended from the 1981-84 estimate of 1,348 people.

Although Table 6 does not show a direct cause and effect relationship between farm numbers and population, they certainly are related. Subdivision and intensive land use are also related, with increases in population accompanying any successful subdivision plans.

Social Organisation

For most people the typical New Zealand farm is and has always been a family farm, a farming system which relies for most of its labour on the farm family, and in which the family is the owner of the farm land.

However, New Zealand history belies the familiar idea that New Zealand is fundamentally a country which has always had family farms. There are three main phases in the history of social organisation of production. Initially, 'run' leaseholders let sheep graze freely over the natural tussock and grass cover. The runs were very large and loosely organised around rights to graze particular geographical areas. The management was extensive with little attempt to control grazing and confine stock. Shepards were employed for wages to handle stock, and others were employed to shear and wash the wool clip. The social environment was pioneering, masculine and makeshift.

Following the economic downfall of run-holding in the 1860s, land was taken up as freehold, in many cases in the form of large-scale estates, featuring new technology such as double-furrowed ploughs, mechanical reapers and binders. Development work such as fencing, draining and clearing was also undertaken.

Large-scale production successfully provided for large-scale estate houses and luxurious homes. Economic success sustained a colonial gentry life style in which estate owners played a dominant role in 9th century politics and society. These employed large groups of workmen and many servants in the houses. On some estates up to 100 people were employed in the harvest season. From 1870 to 1890 the conspicuous elements of New Zealand farming were based on a system of capitalist social organisation. However, the advent of estate farming contained conditions essential to the rise of family farming in the twentieth century.

From the 1890s onwards, there was a decline in world wool and wheat prices which, when combined with government land policies and changes in the growing New Zealand economy, produced the right conditions for the rise of family farm. Estate subdivision, both private and compulsory, and the occupation of new land also provided incentives for families to take up farming.

Family farms are difficult to define in narrow terms because of the wide range in ownership and labour structures involved. Data available on changes in type of ownership from 1972-85 show that company and trust ownership are a small proportion of the total, with most farms individually owned or in partnership (Table 7). In 1972, individual ownership was dominant, but by 1985 the proportion of individual ownerships was not much greater than partnerships. Current trends suggest that the two types will soon be equal. However, based on Valuation Department farm land sales information, the extent of partnerships is greater than individual ownerships. Since 1983, about 50 percent of freehold open market sales have involved partnerships and 30 percent have involved individual ownership. Thus, partnerships are emerging as a dominant pattern of ownership.

Table 7: **Main Types of Ownership of Farm Land 1972 to 1983 (As Percentage of Total Number)**

	Private Registered Company	Individual Ownership	Partnership	Trust
1972	8.5	64.7	21.4	2.8
1982	9.3	52.2	33.6	3.0
1983	8.9	51.5	34.6	3.0
1984	9.2	48.7	37.1	3.2
1985	9.2	46.6	39.1	3.4

Source: Agricultural Statistics, Department of Statistics, Wellington

In some cases a partnership could simply be between husband and wife with no change in the character of the farm. In other cases, it could reflect a change in financial and managerial roles undertaken by two or more specialised people. Such arrangements would include non-family relationships between investors and farm managers. These kinds of partnerships represent significant changes from the family farm pattern.

The involvement of businesses in rural land purchases is documented by the Valuation Department and suggests an increase in non-family forms of organisation. From 1981 to 1986, the proportion of business buyers of freehold, open market land averaged about 17 percent. This class of purchase by an individual or a company, usually does not involve working on the farm but the employment of a farm manager who supervises day to day activities. As such, the ownership of the farm is separate from the operation of the farm. Valuation Department data show that there is a tendency for horticulture and forestry farms to be purchased by businesses. Also, horticulture has the highest proportion of 'no relationship' between buyer and seller.

Some evidence for changes in types of farm organisation is available from a recent survey of farmers (Fairweather, 1984). In the area of management objectives, results show that there are four main types of farmer: (1) the 'financial manager' who concentrates on responding to market prices, increasing income by decreasing costs, using contractors, planning and exercising close financial management; (2) the 'productivity increaser' who emphasises increasing production on the existing area; (3) the 'individualist worker' who emphasises control over efficient farm work, and seeks to minimise dependence; and (4) the 'life style farmer' who regards farm work as a craft and enjoys the non-financial reward of doing farm work well.

The first three types represent the historical succession of approaches to family farming in New Zealand. It is quite likely that our early farmers found management success in hard, practical work as they developed their farms in rugged individualistic style. Then, especially from the 1950s to the 1970s, increasing productivity was the key to success. Now it is financial sophistication which seems to fulfill that promise.

If the above historical sequence of management continues, then in the future many farmers will tend towards being financial managers. As such they may not function as traditional family farmers with their inherent imprecision over measuring labour. These managers may contract farm work rather than do it themselves. Changes of this sort would make farming closer to non-farm businesses and parallel a growing integration of producers into agribusiness.

It is with horticulture and other capital and labour intensive operations on the growing number of small holdings that the new types of farms are occurring. Horticulture has heavy seasonal demands for wage labour which makes even the small-scale operations distinctly different in their organisation compared with family farms engaged in pastoral production.

In addition to signs of new types of farm organisation, there is the phenomenon of part-time farming. Many of the new small holdings are part-time farms, and, if trends in the United States and Europe occur in New Zealand, then the proportion of part-time farmers will grow even more.

The Agricultural Statistics show that since the mid-1970s, there has been a large increase in the number of working owners, leaseholders and share-milkers who do less than 30 hours of farm work per week; most of this increase is by women.

Future Trends

It is unlikely that the traditional family farm will dominate New Zealand's organisation of farming as it has in the past. Alongside the traditional family farm will be a growing number of new and diverse operations featuring separation of ownership from management and employing a moderate to large-size group of wage labour or small numbers of technical or professional consultants. High skill levels will be needed by those who provide the high-technology services required. In general, these new forms of social organisation will take on the characteristics of capitalist production. The contributions of different types of work will be measured a a precise cost.

However, New Zealand's managerially sophisticated future farms may have a different character than those in corporate U.S. agriculture. Grassland animal production may not lend itself to such large-scale cropping and factory production schemes as increasingly typify the United States. What is more likely in New Zealand is the concentration of capital with associated sophisticated technology and financial organisations, but not on the same physical scale as in the United States. New Zealand's 'corporate' agriculture may, initially at least, be composed of numerous groups of relatively small-scale, financially sophisticated producers with the potential for later amalgamation and concentration of production.

The above trends represent a growing differentiation in New Zealand agriculture from which could emerge three distinct components: one would concentrate capital in either new or intensive types of production. The second component would involve the growth of part-time, semi-commercial land ownership, comprising hobby farms, weekend retreats, life style farming, and land ownership for reasons of status or prestige. The third component would involve the remaining family farms continuing without significant change to their individual ownership characteristics. In some ways the first two trends are related. For while

growing financial sophistication in production can entail separation of the ownership of production resources, it is quite likely that the successful investor may also purchase rural land for weekend farming.

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Chapter 5

Rural Work Force

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People and the labour services they provide are the most important resource in agriculture. Yet, in spite of the importance of agricultural labour, we know surprisingly little about it whether it's on the farm, in processing plants or at the retail level.

Bushnell and Gibson analysed employment changes during 1950-1980 (Table 1). Total employment expanded by 106 percent, farm labour fell by 2 percent, and agricultural processing jobs expanded by 191 percent. While expansion in the farm sector appeared steady, data for individual decades shows a fall of 5 percent for 1950-60, an 8 percent drop for 1960-70, and an increase of 12 percent for 1970-1980.

Table 1: **Agricultural and non-agricultural employment 1950/60, 1960/70, and 1970/80**
(% change in numbers employed)

Employment Type	1950/60	1960/70	1970/80	1950/80
Farm labour	-5	-8	12	-2
Agricultural processing	49	35	45	191
All except agricultural	30	34	19	106

Source: MAF, 1982

Table 2: **Trends in farm employment** ('000), **1950, 1970 and 1980**

Farm employment type	1950	1970	1980	Total Change
Full-time working owners	70.4	62.1	70.9	0.5
Part-time working owners	23.1	20.4	23.0	-0.1
Full-time employees	29.6	25.2	26.5	-3.1
Part-time employees	9.7	8.3	8.8	-0.9
Casual employees	10.8	9.2	11.1	0.3
Total	143.6	125.2	140.3	-3.3

Note: Unpaid family labour and agricultural services, such as fencing and harvesting, have been excluded.

Sources: Department of Statistics, Department of Labour, MAF

Farm labour numbers were highly influenced by the declining number of working owners in 1950-1970 and by their resurgence in 1970-1980. However the resurgence did not occur in the same types of farming which experienced declines. Much of it was due to the expansion of horticulture (MAF, 1982). In the processing sector the expansion in employment was almost entirely due to increases in numbers of full time employees from 22,000 in 1950 to 65,000 in 1980 (Table 3). Thus, while on-farm employment has remained fairly static over the period 1950-80, employment in processing has increased faster than the expansion in employment in the economy at large.

Table 3: **Employment in agricultural processing** ('000). **1950, 1970 and 1980**

Employment type	1950	1970	1980	Total Change
Working proprietors	0.3	0.6	0.5	0.2
Full-time employees	22.3	44.4	65.2	42.9
Part-time employees	0.4	1.6	1.5	1.1
Total	23.0	46.6	67.2	44.2

Sources: Department of Labour, Department of Statistics, MAF

Guthrie and Lattimore (1984) shed some light on this matter (Table 4). They show a falling rate of growth of labour productivity for the sector as a whole, but one which disguises a marked increase in on-farm labour productivity towards the end of the period. Meanwhile labour productivity in the agricultural processing, distribution and retail sectors was static, and declined sharply in the input sector.

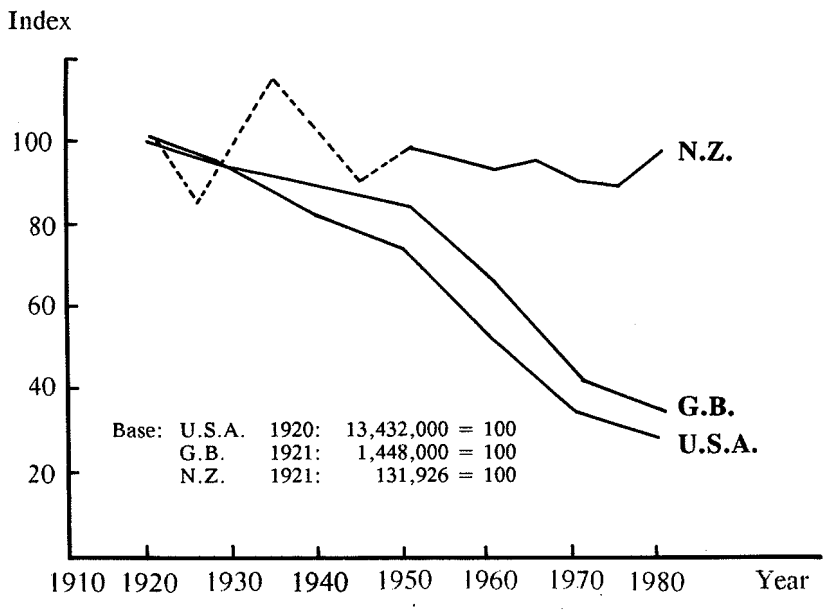
Table 4: **Agricultural Sector: Compound Rates of Growth of Real Net Output and Labour Productivity**

	Annual Compound Rates of Growth of Real Net Output			Annual Compound Rates of Growth of Labour Productivity		
	1959/60, 1965/66	'65/66 '71/72 (%)	'71/72 '76/77	1959/60 1965/66	'65/66 '71/72 (%)	'71/72 '76/77
Agriculture:						
- input supply	4.5	1.0	-2.8	2.3	1.5	-4.2
- farming	2.7	-1.3	2.8	2.3	0.2	3.4
- processing, d'bution etc.	4.2	3.2	2.8	3.2	2.0	0.4
Total Agricultural Sector:	3.5	1.0	2.4	2.7	0.8	1.2
NZ Economy	3.7	4.5	1.8	3.2	3.2	-0.6

Source: Guthrie and Lattimore (1984)

Has New Zealand followed the classical growth path of most developed economies with a decline in the relative importance of employment in agriculture? The answer is yes. But while the relative importance of the farm sector has declined, there has been no decline in farm employment in over 60 years (Figure 1). This is unlike either Great Britain or the United States of America.

After an initial build-up prior to 1921, the rural labour force has since oscillated at just above 120,000 people. In the U.S.A. the number of persons employed in agriculture fell from 13.5 million in 1910 to 3.7 million in 1980 (Smith and Coltrane 1981). In Great Britain it fell from 1.5 million in 1921 to 500,000 in 1981 (Figure 1).



Sources: U.S.A.: Smith and Coltrane, 1981, 3.
G.B.: Census of Population, 1921-1981.
N.Z.: Census of Population, 1921-1981

Figure 1: Index of Total Farm Labour Force 1920-1981 in U.S.A., Great Britain and New Zealand

Not only has the New Zealand total been reasonably consistent but, when analysed by occupational status, the same pattern of stability emerges (Figure 2). Over the period covered the proportion of employers has fluctuated between one-fifth and one-quarter. The proportion of self employed farmers has increased marginally from approximately 24 to 30 percent and the proportion of employees has oscillated around 40 percent of the farm labour force. The only category of major change is that of the unpaid relatives, declining at the turn of the century from about one-fifth of the labour force to now being almost negligible.

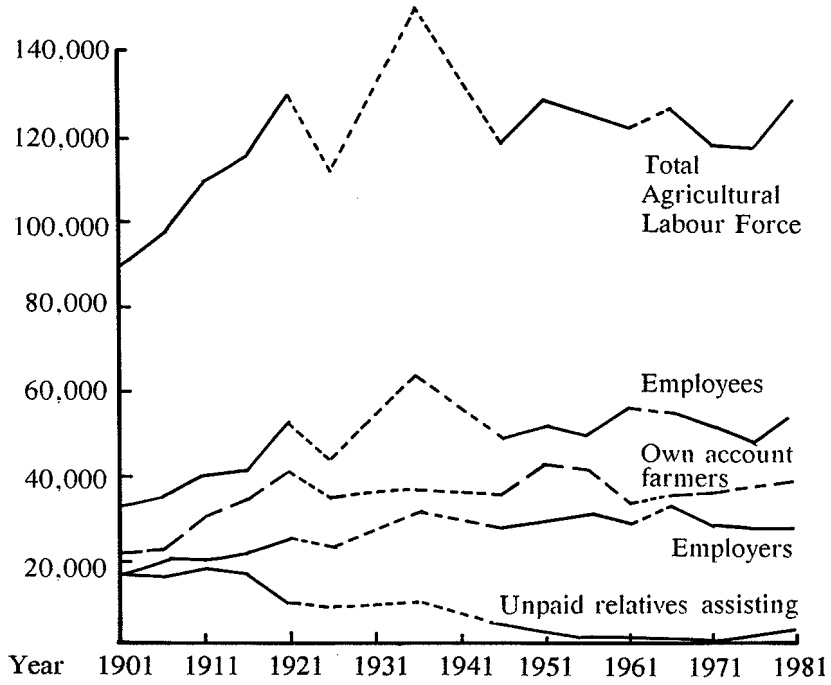


Figure 2: N.Z. Farm Labour Force 1901-1981
Source: Census of Population 1891-1981

In 1951, dairy farming employed the most people, 39 percent of the labour force. Sheep farming had 27 percent. Thirty years later sheep farming was top with 34 percent of the labour force, dairy farming was second with 26 percent and horticulture third with 15 percent (Table 5). Over the same period the proportion of farm employees fell in dairy and sheep farming and it rose in horticulture. These trends were probably initiated by labour saving technology adopted by farmers. The number of employees per 100 employers declined in dairy and sheep farming and increased in horticulture. Only a minority of farms now employ labour. Of 72,500 farms with at least one hectare in 1982, only one in seven employed a full-time worker and one in fourteen a regular part-time worker. Only about 40,000 of these were full time farms.

Table 5: **Characteristics of Farm Labour by Sector of Production in 1951 and 1981**

Sector	Proportion of farm labour force		Proportion of farm labour force who are employees		Employees per 100 employers	
	1951	1981	1951	1981	1951	1981
	(%)		(%)		(%)	
Dairy	39	26	31	27	142	106
Sheep	27	34	48	39	179	149
Horticulture	7	15	50	60	234	336
Other	27	25	-	-	-	-
TOTAL	100	100	-	-	-	-

Source: Census of Population, 1951 and 1981

The regional distribution of employment has also changed. Approximately one quarter of the permanent male labour force is now employed in the South Auckland statistical area, an area of intensive dairy farming and horticultural development; nearly one third is employed on the east coast of the North Island (East Coast, Hawke's Bay, Wairarapa), an area of extensive pastoral farming with concentrated pockets of horticultural production. Only 18 percent is employed in Canterbury and Otago (Harris, 1980).

Annual labour turnover may be as high as 60 percent in both North Island dairy farming and Canterbury crop farming (Gill, 1981). Such rates are higher than in other employment sectors and it would appear that many farm workers leave farm employment by their mid-twenties and are replaced by younger entrants (Gill, 1981).

High levels of turnover occur despite better economic conditions for farm workers (Belshaw, 1936; Harris 1980). While there is still dissatisfaction with wages and employment conditions, perhaps a more

critical influence is the aspirations many farm workers have for farm ownership. In a recent study of farm workers (Harris 1980) 83 percent aged 19 or less and 65 percent aged 20-29 had 'owning a farm' as their main goal in life. Only 5 percent of those aged 40 and over had the same goal - they were more concerned with attaining home ownership and educating their children.

Female participation in farming has increased. In 1981, 20 percent of farmers were female with greater proportions in the 30-50 age group and smaller proportions among younger and older farmers. However, it is unclear how many farms are actually run jointly by husbands and wives, and what their respective roles might be. Female farm workers also tend to be older than males.

Only three percent of farm managers and supervisors are female. The total number of working owners, leaseholders and sharemilkers of both sexes has increased since 1974, peaking at 96,000 in 1981-2. Since then, while the total number has decreased, the number of female working owners, leaseholders and sharemilkers has continued to increase. At the same time the numbers of unpaid family members assisting also increased dramatically, particularly female family members. The decline of permanent paid, full-time and part time employees from a peak of 40,000 in 1977-8 to just under 29,000 in 1984-5 involved mostly male workers. The number of female casual employees has increased recently.

Increased female participation has been particularly evident in horticultural production. Total employment in horticultural production expanded by 237 percent between 1956-1981 and the number of females involved increased by 483 percent, until in 1981, they made up 42 percent of the horticultural work force of 20,600. Since 1981, that work force has continued to expand with continuing increases in the female particpation rate (Tipples, 1984).

Employment Conditions

Conditions for a farm worker are much different from those of people working in agricultural supply, processing/distribution and retail businesses. Farms usually consist of personal proprietorships, employing perhaps one or two employees on a daily basis. Off farm, there are a small number of very large corporate enterprises. The typical worker seldom has face to face contact with the senior managers, let alone the owners of the business, and most likely only deals with front-line supervisors and personnel staff who are also employees.

The regulations are much different too. Farm work has been subject to the Agricultural Workers Act (1977) while employment in the agricultural inputs and Processing-Distribution-Retailing (PDR) sub sectors falls under the Industrial Relations Act (1973). While the boundaries between the two Acts overlap somewhat, the question arises as to why the same general rules should not apply. In a nutshell, vigorous lobbying by farming groups and a sympathetic ear from Government have prevented farm workers from benefiting from the industrial conciliation and arbitration procedures available to most non-farm workers since 1900. Until 1936, farm employment conditions were entirely unregulated. Passage of the Agricultural Workers Act (1936) and its subsequent application was only achieved by farmers being offered some financial incentives and agreement that minimum conditions would be set by Ministerial fiat rather than the Court of Arbitration (Tipples, 1987).

In 1972, the New Zealand Workers Union (NZWU) attempted to have farm workers brought under the new Industrial Relations Bill (and subject to the same general rules as most private sector employees) but the farm workers formed their own Farm Workers Association (FWA). This body was not a registered trade union but, helped by Federated Farmers and a National Party Government, it obtained coverage of workers on dairy, meat, wool and cropping farms under the Agricultural Workers Act of 1977. This Act established an Agricultural Tribunal to settle disputes between employers and employees. The new structure permitted farm workers to have their terms and conditions revised regularly by a group with agricultural expertise and understanding. Unfortunately for farm workers, arrangements built around the Farm Workers Association, were unstable.

Following the defeat of the NZWU, the FWA had to confront its former ally, Federated Farmers, in negotiations. Both bodies were opposed to compulsory unionism, and the FWA found its membership base collapsing in spite of significant achievements in getting farm workers' voices heard and revised wages awards. When it was created, the FWA had profited from the lack of the NZWU. There were, however, organisational difficulties in agriculture even without alliances with industrial unionism and the Labour Party.

One of the major reasons for the FWA's success in 1973-74 was also to be its undoing. Farm workers did not like industrial unionism because they mostly aspired to become farmers themselves; their managerial views aligned closely with those of farmers (Harris, 1980). It was inevitable that the FWA would lose some members who became farmers. Other members were lost when they realised they never would

become owners and consequently gave up farm employment. Still other members were undoubtedly lost to apathy once the 1977 Act had been achieved.

The membership of the FWA declined from a peak of 8,000 in 1975-76 to 2,200 in 1983. By this time the organisation was burdened with a rapidly increasing debt (Kelly, 1980). While it had been founded on the principle of voluntary membership, by 1975 the association realised that some type of assistance would be required. In 1979, employers were asked to include a membership clause in the Dairy Farms and Farms and Stations Awards, requiring farm workers to be members of the association unless they opted out.

The employers rejected the proposal as compulsory unionism. Disheartened, the FWA came to believe that Federated Farmers wanted them sufficiently weak so that employers could dictate their own terms.

However, in 1982, when the FWA's position had deteriorated still further, all the farm employers, with the exception of the dairy farmers, agreed to the inclusion of the membership clause in the award (Cosgriff, 1982). The FWA was prepared to abandon its claim to represent dairy farm workers when all award negotiations were frozen by the Government as part of a 'wage freeze'. Before the freeze was lifted the Industrial Relations Amendment Act (1983) was passed. It prohibited all forms of compulsory unionism, preference of employment to union or non-union members, any kind of discrimination based on membership, or any person exerting undue influence on a worker to become, or remain, a union member. The association's campaign for a membership clause had been in vain.

The FWA was also not helped by resignations of senior officers, the return of a Labour Government, and the renewed possibility of compulsory unionism. Continued decline in membership and a prolonged dispute with the Department of Labour exhausted its resources. Early in 1987 the association was forced to dissolve.

It is a different story in the agricultural processing sector. It has a number of strong trade unions which have not been afraid to flex their muscles. These unions have been aided by the fact that they operate plants dependent on production line or continuous flow technology, and handle perishable produce. While farmers as a whole have been able to control a recalcitrant farm work force, the off-farm food-fibre system employees have been beyond their control. However, in recent times, with the contractions in demand for farm supplies, increased competition

for stock, and the prospect of the closure of more freezing works, the balance of power between employers and employees is changing.

Farmers find it difficult to understand why processing workers seem so ready to strike and disrupt an industry vital to New Zealand's economic success. The reason probably lies in the different attitudes to work in the two sectors (Greer, 1982 and Inkson, 1977).

The farmer works for himself and the farm worker is most often working to work for himself. While some processing/distribution workers have aspirations to work for themselves, most feel they work in a large impersonal organisation in which they identify more closely with their mates than the company.

While farmers and farm workers are concerned with their incomes they also have strong attachments to working outside, and to the intrinsic attributes of farm work. In contrast, processing workers appear to have little enthusiasm for their work. They are there for the money and endure the unpleasant activity to obtain it. Further, prospects of advancement may not appeal because a person ceases to be a mate and instead is transformed into one of 'them'. Farmers have a much greater chance of overcoming this problem with their more intimate employer/employee relationships.

The term 'psychological contract' has been coined to describe the mutual expectations of employers and employees which go beyond the minimum terms set in their legal contract (Schein, 1980). Where such expectations are clearly understood high levels of job satisfaction, greater longevity in the job and lower staff turnover are the result (Kotter, 1973). The farmers' 'psychological contracts' with the downstream processing and distribution workers are at variance with the realities of employment and the expectations of employees in the processing and distribution sectors. With the shift in employment to food processing and distribution firms it looks like these problems could get worse rather than better. The 'more market' philosophy associated with Government since 1984, has not overlooked the field of industrial relations. Farmers who believe they are one of the groups most affected by this philosophy have been keen that workers supplying their inputs and processing their production should also experience the cold winds of competition.

As a result, the labour force with its practices of trade unionism, compulsory membership, blanket clauses, minimum wage rates, and lack of competition between unions has become a target. The ensuing debate about more flexibility in the labour market has resulted in a draft

Industrial Relations Bill which might well bring about the most radical changes since the introduction of compulsory arbitration in 1894.

The Future

The demand for on-farm labour will be influenced by progress in obtaining foreign markets. At present it appears that the most promising growth areas are in horticultural production. Most of the labour projections focus on the seasonal labour needs of this industry.

Projecting labour shortages is tricky. By drawing attention to peak needs, growers stimulate the development of labour saving technology which, in turn, reduces the need for workers. They can also establish a favourable climate for the immigration of suitable labour from within or from outside New Zealand. Overseas evidence suggests that the greater the demand for labour, the faster new labour saving technology and systems are adopted. Technological changes often have other significant effects such as a growth in the number of other permanent jobs, and multiplier effects based on increased income and employment. Horticultural developments in areas which have no previous history of horticulture have tended to take this form (Martin, 1983).

Where horticultural development is the result of syndication, businesses:

(a) are oriented towards the product market;

(b) are concerned with the economic rather than intrinsic aspects of farming;

(c) have larger numbers of employees with no kinship ties to their employers or financial involvement in the business;

(d) have social relations and structure which are more class based (Newby et al., 1978)

If they are family businesses with the horticultural enterprise being developed alongside traditional cropping or pastoral enterprises, they can also experience substantial social changes. For example, in one study of Canterbury horticultural developments associated with irrigation, 'busy times' became frantic; workloads increased; planning for and managing labour changed work routines and increased stress; book work and industry meetings increased; wives and children were more involved in farm work; wives became particularly involved in supervising staff, 'gate sales', 'pick your own' programmes, and office work (Blake and

Taylor, 1986). The management of a substantial labour force was a new experience and added to the stress: 'you can fine tune a tractor, but you cannot fine tune labour'.

Another issue, highlighted by recent developments, is the need to be able to accommodate seasonal workers in districts in which the labour requirements cannot be met from the local labour force. Existing town and country planning controls and accommodation regulations for agricultural workers make provision of inexpensive accommodation difficult. Also there may be tensions between local residents and seasonal migrants.

There has also been considerable debate about the availability of adequate numbers of horticulturally skilled workers to operate the new enterprises. In spite of a substantial expansion in horticultural education and training it is uncertain whether there will be enough skilled people. Other new enterprises requiring new skills include deer and goat farming, and the production of new fibres such as mohair and angora.

The present prospects in the export markets for traditional products do not suggest a resurgence of demand for labour for meat, dairy and arable farms. The supply of labour for these enterprises may contract further as a result of changes in recent labour relations legislation. The expected net effect of these measures is to deregulate the farm labour market and thereby reduce minimum farm wages to the level set by the Minimum Wage Act 1983 (at present $210 per 40 hour week). At such wage levels the relatively high costs of living remote from urban settlements may lead to an accelerated withdrawal.

Freeing up the labour market

The proposed 1987 Labour Relations Bill implements the Government's policy on employer-employee relations. It is intended to encourage effective organisations able to negotiate agreements, A single comprehensive agreement is to cover each employee's employment, and is to be negotiated, administered and enforced by both the parties. The abolition of compulsory arbitration for awards subject to the Industrial Relations Act 1973, is extended to the whole of agriculture. The sections of the 1977 Act, establishing the Agricultural Tribunal and union registration procedures, are repealed, and agriculture is brought under the Labour Relations Bill. Thus, a separate system for agriculture will no longer exist. However, some uncertainty remains as to whether the New Zealand Workers Union will persist in representing farm workers' interests if farmers refuse to negotiate new awards and cannot be compelled to do so.

What might happen? If there were a situation where all wage awards in agriculture failed to be renewed a very dispersed labour force in many small employment units would find it extremely difficult to raise wages and improve working conditions. It is costly for a union to organise farm and horticultural workers and even more difficult to organise any kind of industrial action which might compel their employers to agree to a new award. Without that agricultural and horticultural workers would be dependent upon the minimum wage levels set by the Minimum Wage Act 1983 and whatever benefits might be available to them from the Family Support programme. While the best employers would be unlikely to force wages down to such a level, there is sufficient evidence to suggest that farmers think of themselves first and their employees second.

Will non-farm food processing/distribution workers experience similar changes? No, because they are strongly unionised. Only employers prepared to engage in a prolonged industrial struggle would be able to enforce their will. In the case of individual plants such a policy may prove effective (e.g. the closure of Longburn Freezing Works in 1986-7), but is unlikely to be so at an industry level without disrupting the industries involved. Only where a company has an alternative source of supply (Fletcher Challenge's Canadian wood pulp to substitute for that lost when the Kawerau plant was on strike, 1986) or has almost monopoly control of an industry (Wattie-Goodman-Fielder in fruit and vegetable processing), and thus has no significant market competitors can such an aggressive free market policy be contemplated. Moreover, the perishability and the consequential losses for producers in the event of prolonged industrial strife are likely to lead to pressures for an early settlement.

Employers have recently begun to adopt a new strategy in order to recover economic losses from strikes. Perhaps the action by Ford (NZ) Ltd against the Northern Storespersons and Packers Union for such actions is a sign of things to come.

Under existing law it is unlawful to strike once an official disputes procedure has been invoked; or in an essential industry without giving 14 days notice. Direct action is lawful before a 'dispute of interest' procedure has been invoked or if a party has withdrawn from the proceedings. Under the new Bill, while direct action is specifically unlawful over a 'dispute of rights', final settlements are not inevitable. A 'dispute of interest' with 'voluntary' arbitration, and strikes and lockouts are expressly stated to be lawful. The statutory penalties for unlawful strikes are abolished and the remedies provided by the new Bill include an order for compliance or a civil action for an injunction, damages or both.

Conclusions

Changes in the food-fibre labour force and the environment in which it operates, suggest we are at a turning point. Should the status quo be allowed to continue? The Government and employers believe that it should not, yet disagree as the extent to which it should be freed up. Discussions have proceeded for years with few signs of progress until the reintroduction of voluntary arbitration in 1984 and its proposed extension in 1987. To continue as before is to risk atrophy, but to go as far as the Business Round Table desire would be to return to the dark ages of industrial relations. While such a move may give short term benefit to the employer, in the longer term a severe reaction may be experienced, especially if a period of 'comfortable' conditions occur as happened in the New Zealand Meat Industry (Inkson and Cammock, 1984). In the post-World War II period some of the perceived losses resulting from the introduction of killing chains in 1932 were recouped by the meatworkers. However, it took until the mid-1980s for employers to regain their position of strength.

But the question must be asked: Has anyone learnt anything about labour relations in the intevening 50 years? From the present attitudes of employers and employees, it appears that very little has been learnt about improving the management of poeple. There is argument about the unity of interest between employers and employees. Building better employment relationships involves more than renegotiating the contract of employment of each employee in the food-fibre system. It requires substantial clarification of the set of 'psychological contracts' not only between employers and employees, but also between supervisors and managers, between foremen and labourers, between blue collar and clerical staff, and between board members and senior executives. Clarification of mutual expectations will not occur without considerable thought, discussion and understanding. It will be impeded if honesty and sincerity are not apparent, and if there is no willingness to give and take.

In terms of contract law, genuine consent between the parties is required to exist for a contract to be enforceable. Consent does not exist if it can be shown there was a mistake, fraud, misrepresentation, duress, undue influence or unconscionability. Unfortunately, many employees are unable to demonstrate the freedom that this principle implies being tied by personal circumstances and lack of alternative employment options to their present employer. In such situations while the psychological contracts are broken, the legal contract continues and work degenerates into tokenism

New Zealand cannot afford the continuation of such unsatisfactory employment relationships in the food and fibre sector. While the Government is trying to improve the legislative framework for labour relations, employers and employees can both contribute to the achievement of standards which will improve both productivity and relationships between employers and employees. They will not be achieved by lobbying parliament in the hope that the lobbyists view of the world will be adopted in the debate, but will be greatly helped by the types of maturity and improvement outlined above.

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Chapter 6

Capital and Agriculture

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Capital has always been of major importance in New Zealand agriculture. From early times farmers insisted on securing the freehold of their land, which alone created demands for heavy doses of capital. To this had to be added the substantial finance required for mechanisation, improvements and working capital. These demands have involved Government as well as the private sector and any discussion of capital must refer to the activities and policies of both. It is also important to note that agricultural finance is heavily influenced by policy decisions outside the farm sector. Nevertheless substantial quantities of farm capital are generated from savings within the industry itself.

On Farm Sources of Capital

'The farm is the farmer's own bank' is a trite but largely true expression in New Zealand. Whether it be due to the ingrained saving habits of farmers, the reluctance of some to borrow, the fear of owing excessive amounts to external creditors and being 'beholden to them' in some way, or a taxation system that encourages self-financing, it is well recognised that 'plough-back' capital has always been a characteristic of many farms.

The level of this plough-back is determined by a range of factors including profitability, the rate of interest, expectations of farmers, availability of credit, inflation, the general attitude to borrowing, the availability of price support-schemes, the degree of retirement schemes

Table 1: **Distribution of Liabilities of New Zealand Farmers**
(By Farm Type)

Production Year	No Loans	$1 - $50,000	$50,001- $100,000	$100,001 $250,000	$250,001 $500,000	OVER $500,000	
	%	%	%	%	%	%	%
ALL TYPES							
1982	9	32	24	29	6	1	100
1983	14	25	21	29	8	2	100
1984	15	25	19	29	9	2	100
1985	18	22	19	28	10	2	100
1986	19	22	17	29	11	2	100
MAINLY DAIRY							
1982	8	34	28	27	3	0	100
1983	11	27	27	29	6	1	100
1984	12	28	21	32	7	1	100
1985	12	21	20	35	10	2	100
1986	15	24	19	30	10	1	100
MAINLY SHEEP-BEEF							
1982	10	30	22	29	8	1	100
1983	16	25	17	31	9	3	100
1984	18	22	19	27	11	3	100
1985	20	22	18	27	10	2	100
1986	22	20	16	29	12	2	100
MAINLY CROPPING							
1982	6	18	12	53	0	12	100
1983	4	22	26	28	20	0	100
1984	4	18	20	31	16	11	100
1985	27	21	6	24	19	2	100
1986	19	19	6	23	23	9	100

Source: Pryde and McCartin, "Farmer Opinion Surveys", 1982-86., A.E.R.U., Lincoln College, Canterbury.

available, and comparative the returns that can be secured from off-farm investment.

Recent studies have shown that there are still many of farmers intent on taking every opportunity to reduce their indebtedness to off-farm lenders. During the production years 1982 to 1986 the proportion of farmers with no off-farm liabilities increased from 9 percent to 19 percent. In the early part of this period the sheep-beef farmers were receiving substantial subsidies from Government and farm land prices were rising rapidly, while over the period the cost of borrowing rose significantly. Table 1 shows the distribution of liabilities for farmers as a whole and by the main individual types.

Another reason for the increase in the proportion of farmers with virtually no borrowings could have been the decreasing export prices of the main farm products. Farmers concerned may well have decided it would be prudent to reduce the indebtedness to enable them to withstand the lower incomes that were in prospect.

Investment 'off-the-farm' has become important for 53 percent of farmers. A 1982-86 farmer-opinion survey indicated that many farmers were turning to non-farm investments. Falling land prices, reduced farm profitability and high returns in some non-farm sectors have influenced farmers to invest some of their capital off-the-farm. Over half the farmers surveyed indicated they had off-farm investments. Some were in real estate, but most had bought shares of some kind. To New Zealand agriculture this is a fairly new development and could have even greater significance in the future when the subject of re-investment is being discussed. Increased off-farm investment will certainly have an influence on the amount available for farming's overall capital needs.

Off-Farm Sources of Credit

Off-farms sources of farm finance can be divided into three main categories: Government institutions, private sector institutions and other private sector areas

In the 1890s the Government established the 'Advances to Settlers' organisation to help farmers obtain farms created by the break-up of large estates. The purpose was to provide funds at competitive rates of interest to help settle the new farmers. Today the Rural Banking and Finance Corporation is the successor to that original body.

Table 2: **Loans Outstanding to the Agricultural Sector as at 31 March**
($ million)

	1980	1981	1982	1983	1984	1985	1986
Stock and Station Agents	353	403	431	414	506	549	568
Trading Banks	348	467	658	674	806	827	966
Trustee Savings Banks	48	67	111	142	141	151	149
Private Savings Banks	35	37	40	25	16	12	8
Finance Companies	82	113	156	161	223	236	250
Development Finance Corp.	6(E)	6(E)	19(E)	40(E)	55	71	133
Building Societies	49	54	61	69	82	104(E)	110(E)
Insurance Companies	210	256	303	354	397	447	449
Dept. of Maori Affairs	38	47	58	73	85	93(E)	111
Dept. of Lands & Survey	108	126	158	190	214	231	252
Marginal Land Board	30	32	33	-	-	-	-
Rural Bank	1,043	1,242	1,510	1,820	2,074	2,262	2,440
Sub Total:	2,350	2,850	3,538	3,962	4,599	4,983	5,436
Solicitors Trust Funds	194	247	318	389	462	530	570
Family Loans	490	569	675	880	1,050	1,200	1,300
Private Sectors	187	250	337	309	330	300	300
Trust Companies	124	135	148	164	165	190	150
Local Body Loans	29	38	50	42	46	40	41
Dairy Companies	33	39	47	26	33	46	64
Other	46	68	103	61	66	80	60
TOTAL	3,453	4,196	5,216	5,833	6,751	7,369	7,921

Sources: Pryde (1978), Pryde and McCartin 1982-86, Pryde and Bain.

Table 2 emphasises the dominant role of the Rural Bank in financing farming. In holding over 30 percent of total rural debt it occupies the significant position in the financing of agriculture. It is also a vehicle of government agricultural policy and there are few Budget documents that do not contain at least some policy measures affecting it. In turn the bank itself has, especially in the period since 1984, felt the effects of changes in Government monetary and fiscal policy. For example, it has been forced to meet its capital needs from the open market rather than from out of taxation receipts. This has had a traumatic effect on the cost of its loans to farmers. The trauma is not so much at the level of interest rate charges as much as the magnitude of the increase. Many loans have doubled their costs, while the average loan cost has risen about 50 percent. In addition to the rate charge, the large size of individual farm loans has made debt servicing an even worse significant problem. For an institution noted for its low cost loans this has had a big impact on the increased outgoings of those farmers who are indebted to the it.

The new Government policy has forced the bank to review its pattern of lending and to increase slightly its proportion of shorter-term loans. It has had to consider offering farmer clients 'over-all' or 'one-stop' finance packages in contrast to its former policy of concentrating on medium and long-term finance.

The Rural Bank's dominant role in the provision of capital to agriculture has inevitably subjected it to accusations that its policies have encouraged escalations in the prices of farmland. This allegation was difficult to refute when the bank's policy was to offer low interest loans for the purchase and development of farms. Also it exposed the bank to the other accusation that its policies were having the effect of driving out private sector lenders, especially institutional lenders. Later in this chapter we shall examine these allegations.

One of the bank's unusual services is that its staff are trained in agricultural and horticultural sciences and are better able to assist would-be borrowers than many other would-be lenders. There is no doubt that this has helped the bank in its operations.

Despite its virtual corporatisation, the Rural Bank has remained under the control of the State Services Commission. This situation seems anachronistic as the Commission is not a financial organisation and other State-owned institutions such as the central bank (the Reserve Bank of New Zealand) and the Government-owned trading bank, the Bank of New Zealand, control their staffs independently of the Commission.

Table 3: **Average Size, Interest Rate and Term of Farm Loans by Selected Lender, 1986**

		Average loan	Average Rate of Interest	Term (% of average loan) Long	Medium	Short
1.	Local Body	$11,400	9.1	77	20	3
2.	Private Savings Bank	$20,000	18.0	100	-	-
3.	Building Society	$28,700	20.0	82	18	-
4.	Trading Bank	$29,600	20.3	7	30	63
5.	Stock & Station Agent	$34,400	22.1	5	8	87
6.	Finance Company	$37,900	21.4	6	22	72
7.	Dairy Company	$41,200	19.6	15	49	36
8.	Trustee Savings Bank	$47,900	19.7	65	22	13
9.	Solicitors Trust Fund	$56,800	19.5	8	29	63
10.	Govt Agency - Other than Rural Bank	$58,800	12.0	82	15	3
11.	'Other'	$60,700	14.3	47	32	21
12.	Trust Company	$62,400	18.1	32	24	44
13.	Insurance Co.	$66,500	17.9	69	21	10
14.	Family Loan	$70,900	10.4	61	27	12
15.	Rural Bank	$82,150	12.1	79	19	2
16.	The Last Owner (The Vendor)	$89,000	14.2	21	48	31
17.	Offshore Lender	255,900	10.7	8	83	8

Note: Long-term (longer than 10 years)
Medium-term (3 - 10 years)
Short-term (up to 3 years)

Source: Pryde, J.G. and McCartin, P.J. (1986), "New Zealand Farmer Intentions and Opinions Surveys", A.E.R.U., Lincoln College.

Table 3 provides data on the average loans size to farmers from the various lending sources in New Zealand, the average rate of interest (as at mid October 1986) and the proportion of the loan in the three term categories identified.

Approximately 80 percent of the average loan ($82,150) from the Rural Bank is long-term and almost all the balance medium-term. This pattern is arguably justification for the Bank's existence. Long-term capital is imperative for a viable agricultural industry. The experience in agriculture is that many development projects on the farm involve a long payback period.

Other Government agencies such as the former Lands Department, also can lend money to farmers. Here again the average rate of interest is low and the largest proportion of the money is on a long-term basis.

The three major short-term lending sources of the private institutional sector are the trading banks, the stock and station agencies and the finance companies.

The trading banks are the largest short-term lenders to agriculture, their overdraft system being appropriate for the rapidly fluctuating short-term needs of farmers. The branches of the four main trading banks operate throughout the country and although few, if any, of the staff of these institutions have specialised training in agricultural finance, they have developed a close rapport with the industry's needs.

Perhaps the stock and station industry can claim the closest association with farm lending in the short term category. They are institutions unique to New Zealand and Australia and provide a myriad of services to the farm sector. In recent years the stock and station sector has had to implement drastic rationalisation moves in the face of increasing costs, declining farm profitability and greater competition from other organisations competing for the farmers dollar.

The finance companies are relative newcomers to the farm credit industry. They are a product of new institutional arrangements that have emerged from the rapid developments in the financial services sector. Their speciality appears to be the provision of hire purchase funds for farm machinery.

Insurance companies are still major long and medium term lenders to agriculture and here again their lending policies have been influenced greatly by changes in government economic policies. Following the Government decontrol policy instituted after 1984 and the decline in

agricultural profitability, insurance companies have reduced significantly the rate of increase in their lending to farming. The removal of coercive Government financial controls has enabled this sector to pursue more profitable investment avenues outside agriculture, even though farmers themselves are major policy holders. Recent research, Pryde and McCartin (1986), showed that farmers in the 1985/86 year paid an average of $1,398 to insurance companies in life insurance policies and $1,643 for fire and general insurance.

In some areas of New Zealand trustee and private savings banks and building societies are, significant long-term lenders to the agricultural sector. In the past their interest rate charges tended to be constrained but market forces have compelled them to match other lenders if they are to secure their necessary level of deposits. The same observation would apply to trust companies operating throughout the country.

Local bodies have administered low-cost farm-housing loans in the past on behalf of the Rural Bank. The scheme assisted farmers in the housing needs of themselves and staff.

Perhaps the most significant new lending source mentioned in Table 3 is 'the off-shore lender'. These are mainly private institutions in countries such as U.S.A., Japan, Switzerland, the United Kingdom, Singapore, Hong Kong and West Germany. Off-shore borrowing by New Zealand farmers is a development of recent years and is a reaction to the high interest rate charges incurred in borrowing large sums on the New Zealand market.

International loans can be raised at what, compared with levels prevailing in New Zealand, are very modest interest rates in foreign currency. Some farmers with substantial development projects have decided to face the risks inherent in such borrowing. These risks include depreciation of the N.Z. dollar and possible rises in interest rates in the borrowing country. The loans are mainly medium-term and for amounts averaging about $250,000. However, should the value of the borrowed currency firm (i.e. the $NZ decline) the cost of repayment could, in some instances, prove 'embarrassing'. Borrowers may minimise their risks by adopting flexible loan management practices, taking out insurance cover and maintaining an alert monitoring of international exchange rate movements.

The demands on the borrower who raises an international loan are new to New Zealand farm borrowers. The 'sign and forget' mentality adopted for most local borrowing is no longer apt. In borrowing off-shore the farmer borrower must not only be a successful producer but

also develop an expertise in the management of foreign exchange. He can of course delegate the latter task to a foreign exchange manager but complete delegation could prove costly to the borrower - it has already done so in some cases.

Other Private Sector Sources

In this category are sources such as the solicitors' trust fund administered by law offices in rural and provincial centres throughout New Zealand. The operations of the law offices are of vital importance to the industry. They offer a personal service and are in close touch with the available resources and needs. Although not specialists in agriculture the law firms are generally familiar with the financial situation in agriculture and are major mobilisers of private savings available for farm investment.

Family loans are usually at low rates of interest and available for long and medium terms. The fact that there is still a large family element in farming probably causes a substantial amount of money to be available in the industry. Often it can be classified as farm settlement money, loaned to help establish a younger member of a farming family.

The other important source of private finance is the vendor who, in order to sell a property, is required to leave a significant amount of money in the business for a medium or longterm at a rate of interest that is usually described as 'reasonable'. This kind of source becomes very important when the industry itself is experiencing low profitability.

Factors Affecting the Supply and Demand for Capital.

There are many factors which affect borrowers and lenders. Some are personal, some are institutional. Major factors for New Zealand include government policies, attitudes toward equity capital, and 'creative' financing.

Government Policies

Reference has already been made to the impact of Government policies on finance for agriculture. Government policies include: exchange rate; input substitution protection; budgetary deficits, monetary and fiscal policies; attitudes towards inflation; trade and foreign relations, labour market legislation; and research and education expenditures. These are only some examples of ways by which agriculture can be influenced in terms of capital investment.

Alternatively a government in aiming to assist the farm sector may in fact harm it. The Reserve Bank of New Zealand summed up this problem, noting the two-way relationship between Government policies and the farming industry. The quotation below describes how the industry can be affected adversely by a subsidy policy adopted by Government.

"...technological advances in agriculture have resulted in an over-supply of agricultural products, placing many farmers at risk of failure and forcing considerable numbers off their land on a world wide scale. The problem was compounded in New Zealand and elsewhere by a failure to adapt to consumer demand shifts away from traditional pastoral products. Policy makers and the industry were slow to recognise the nature of the problem which was manifesting itself in failing international commodity prices. A framework of assistance packages evolved over time aimed at maintaining farm incomes and encouraging increased production. Borrowing for investment in future production was heavily subsidised by the Government through the Rural Bank while farm incomes were supplemented through various devices including the Meat Industry Stabilisation Account and the Supplementary Minimum Price Scheme.

Government policies in the five years to March 1985 resulted in $2.5 billion of public money being spent on farm income support and interest subsidies on Government loans. These measures sustained a high demand for land which had the effect that the subsidies became capitalised in rising land prices. The average nominal sale price of farm land increased 240 percent between 1976 and 1982 while incomes from the land inclusive of SMPs rose only 25 percent. The anticipation of continued income support and continued rising land values resulted in farmers borrowing heavily against their rising equity. In turn the subsequent removal of support structures and the fall of farm incomes means that farmers who purchased land in the early 1970s are now servicing debt levels which are unsustainable. The estimated declines in farm incomes over the 1985/86 season coupled with forecasts of future earnings has depressed land prices, leaving farmers with decreased equity and lenders with reduced security. In some cases farmers are technically insolvent with debt levels now exceeding the reduced land value of the farm."

Sometimes the effect can be in the opposite direction.

There have been occasions in the past when the farm sector has pressured Government to adopt policies that are not necessarily in the best possible interests of the industry or the economy. Some of the post-war so-called 'stabilisation' schemes might be included in this group. In some cases the 'floors' at which point the schemes were triggered off were set too low. Conversely there were occasions where the 'ceilings' at which point producers had to contribute to the stabilisation fund were set too high, resulting in payouts that were excessive in the economic climate prevailing at the time. Recent research has disclosed that, a majority of farmers would prefer to invest their own surpluses and not contribute to any producer income stabilisation schemes.

It will always be a matter of major debate as to what is the most appropriate role for Government in the provision of capital for agriculture. Too much intervention undoubtedly drives the private sector to look to other avenues for the investment of its funds. Also, there is general acceptance now that farming cannot expect to receive special treatment. But in a small economy like New Zealand, it is clear that considerable Government involvement in finance is inevitable.

Equity Capital

The deep-seated view that farming is still very much a way of life in addition to being a business, has been one of the major obstacles to the development of a role for equity capital in agriculture. This method of financing would not only reduce the demand for borrowed capital but also secure for the industry a much broader support base and the reality that farming is a business, viable only if business methods are applied to it. This has wide implications for agriculture including the contention that all farmers in the future will have to undergo instruction in business and financial management. It also implies a closer relationship to the business and financial sector, the impact of which would be beneficial to all in the long run.

The farm sector has in the past opposed the separation of ownership and management. The development of equity capital financing of farming could see an end to this separation and it could be to farming's advantage.

Other Innovations

The financial sector is introducing innovation in methods of financing enterprises at a very fast rate. Some people call this creative financing, others call it common sense. Agriculture cannot be isolated from this trend if it is to keep up with other advanced industries. The New

Zealand farming industry has more than its share of entrepreneurs willing to change their methods of farming, to take risks and to adopt new systems of financing their enterprises. They do not demand subsidies or special treatment. But they also would want an economic climate that does not disadvantage their industry. The future could be an exciting and successful period for New Zealand agriculture.

It will be seen from Table 2 that total farm debt in New Zealand has now reached approximately $NZ 8 billion at a time when there are strong pressures to ensure that the returns from capital invested in agriculture are maximised. In the future these pressures will increase in a capital hungry economy.

Agriculture will have to compete in the market with all the other fiercely competing forces. It is likely that farming practitioners in the years ahead will have an even greater regard to the returns to be derived from every increment of capital available to their enterprise. This could have significant effects on the structure and organisation of the industry and the infrastructure that services it.

The Future

From this brief discussion on finance and New Zealand agriculture, some indicators for the future emerge:

- Greater emphasis will fall on the efficiency with which farmers utilise their capital.
- Lenders will be more selective and employ more conservative lending margins.
- Farmers will have received more intensive business training and understanding of financial matters.
- There will be more emphasis on annual profit and less on capital gains.
- Farmers will be less concerned with the repayment of their borrowings and more adept at rolling over their loans in an increasingly sophisticated finance market.
- Financial advisers will achieve greater recognition.
- Much greater emphasis will be placed on the commercial aspects of farming, e.g. marketing signals will be heeded more consciously.
- Farmers will forge closer links with the agribusiness sector.
- There will be increased partnerships with women in agriculture.
- In arable farming in particular, machinery syndication will increase as a means of minimising the burdens of servicing the high cost of new and innovative plant and machinery.

- There will be greater opportunities in farming for highly-trained executive managers who understand farm finance.
- Non-farm investors will have greater opportunities to purchase shares in large farms.
- While the so called 'family' farm will continue there will also be an increase in other forms of farm capital ownership and control.
- There will be a continued decline in the short-term financing of agriculture by stock and station agents; trading banks and finance companies will increase their share of such financing.
- Farmers in the future will operate their own income stabilisation arrangements; new forms of income smoothing schemes will emege.
- A farm mortgage market is likely to emerge in a better organised form.
- Farmers in some sectors will require to invest less of their capital in land. The State, for example, could emerge as a landlord rather than a vendor of land, especially in sectors such as horticulture.
- Farmers will have greater variety in the marketing of their output e.g. the sale abroad of live animals will expand and some farmers will extend their operations to countries in which important and developing markets exist.
- Farmers will be made aware of a much wider range of financial services available to them, including offshore loans.
- Large institutional lenders such as the Rural Bank will develop 'one-stop' lending facilities to enable the varied demands of farmers to be met from one lender. This facility will reduce the number of mortgages per farm.
- It is unlikely there will be a dramatic increase in on-farm computers as an aid to farm financial operations. Rather, greater use will be made of facilities owned and operated by the lending institutions and financial advisers.

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Chapter 7

Competition for Resources

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In the competition for control of resources the question of pastoral leasing has been raised with increasing frequency. Most of the occupied land in New Zealand is held in private ownership or leased from the Crown (or a public agency) under a system of land tenure largely derived from the United Kingdom. Other forms of land tenure are occupation licences, private leases, share agreements, deferred payment licences (a transition from lease to ownership) and cooperative and corporate ownership.

The doctrine of 'eminent domain of the Crown' applies to all land in New Zealand, and gives the Crown ultimate rights of ownership, particularly where the public interest prevails or the land becomes vacant. Maori freehold land is a special category of private land. Its title is derived from Maori customary title, and though it continues to be owned by Maori proprietors is deemed freehold land under fee simple from the Crown.

Crown land is used for a wide range of public purposes such as roading, railways, airports, government building sites and nature conservation. Many public agencies own land or administer land for the Crown for a wide variety of public purposes. Ownership of coal, oil and mineral resources is reserved to the Crown except in cases where the grant of land from the Crown to the initial owner did not make the reservation.

Private land is traded freely in New Zealand and its allocation is determined by the market except where it is subject to controls by district planning schemes or legislation concerning aggregation and overseas ownership. In the case of Crown leasehold land, the transfer of leases is subject to the approval of the Crown, but this is withheld only in exceptional cases. Provided there are no caveats or other restraints on dealing in land, the legal transfer of land is readily achieved under the Land Transfer Act, 1952. Titles are state-guaranteed under this Act.

Ownership of all natural water in New Zealand remains with the Crown. Uses of water other than for domestic, livestock, or firefighting purposes require rights (to dam, divert, take or discharge) from a regional water board after a study of the specific water involved. Consents for the use of water by a Crown agency are also required. Water rights, or consents, may be subject to special conditions.

There is no charge for the use of water other than an application and investigation fee. Water rights are for limited duration and must be reapplied for. They may also be transferred during their currency. Water, therefore, is allocated on a planned or administrative basis rather than by any market mechanism. There are, nevertheless, some examples where land with an associated water right for irrigation has been sold for a substantial premium.

Ownership or tenancy of land, and the rights to use water are prescribed by a number of statutory restraints, incentives or specially-imposed conditions. The Town and Country Planning Act, 1977, requires territorial local authorities to regulate land use. Another statutory instrument is the Soil Conservation and Rivers Control Act, 1941, which provides for the protection of the land.

Pastoral leases are the dominant form of land tenure in the occupied high country of the South Island. Special land use conditions, as well as those listed above, apply to pastoral leases, and are intended to regulate the use of high country land. There are 370 pastoral leases covering 2.5 million hectares of South Island high country. Crown land is classified pastoral when it is suitable or adaptable primarily for pastoral purposes only (land Act, 1948, S 51.1).

During the debate in Parliament which preceded the passing of the Land Act 1948, establishing the pastoral lease as it is today, several points were made: (1) that it may be necessary for soil conservation for some control to be exercised over the type of land contained in these leases, (2) that a substantially less secure pastoral licence should be replaced by offering perpetual rights of renewal, (3) that stocking

restrictions be retained, and (4) that the use of the land was clearly for extensive pastoral farming. However, since 1948, there have been many developments in farming and a growing realisation that there are other possible uses for high country land.

Recently the future of pastoral leases and the uses of high country land in general have been under discussion, as a result of attempts to renew the rental conditions (initially based on the stock-carrying capacity) for leases, unchanged for 33 years. The rental issue developed into a battle for jurisdiction and use of the land, i.e., who controlled the use of the high country and for what purpose? On the one hand, lessees, concerned about the possibility of a major escalation in rents, emphasised their inherent property rights. On the other hand, the public interest began to be reflected in calls for removing high country land from leases to allow for conservation, recreation, or other more intensive, diverse and profitable uses.

In the mid-1970s the subject of rentals for pastoral leases came to the public arena as the Land Settlement Board, the administrative authority, began to examine bases for establishing a 'fair annual rent' for those leases coming due for renewal in the early 1980s. A vigorous debate between the board and representatives of pastoral lessees ensued. The board considered many alternatives including arbitration, rent based on stock carrying capacity, indexing existing rents, adjusting rents according to the terms of exchange for pastoral farmers and rent based on the market value of land.

Eventually, the board decided that the rent for pastoral leases should be on the same basis as other Crown leases, i.e. as a percentage of the value of land, exclusive of improvements. This was considered both equitable and provable. The principles which govern the valuing of land in this manner have been well-documented (Valuer-General, 1968; Smith, J., 1980; Kerr et.al., 1979; and in the recent case of the Assistant Commissioner of Crown Lands vs. Associated Taverners, Ltd.). The board initially committed itself to a rental of three percent of such land value, but after representation from lessees altered its position, and in effect, passed the problem to Parliament which passed the Land Amendment Act 1979.

Using that Act as a basis, the Land Settlement Board stated that pastoral land must be rented for pastoral purposes only. It follows that the demand for land for pastoral use should be reflected in the value of the unimproved land and thereby serve to determine the rent payable. However, where there is a 'higher' or 'better' use (e.g. infusion farming, forestry or commercial recreation) for the land, the result is

likely to mean land values higher than if the land were used solely for pastoral purposes. For instance, a pastoral leasehold property located close to a major resort area is currently being offered for sale at $3 million for its tourist potential when as a pastoral farming enterprise it could be expected to only bring about $1 million.

Strangely, if a pastoral lessee applies to the Crown for approval to use the land for forestry purposes the rent is likely to be double that for pastoral farming. Evidence has been growing over many years that forestry, particularly when associated with pastoral farming, as a highly productive, sustainable and potentially economic form of land use. Thus, it appears, through its own rental policy, the Crown is discriminating against investment in forestry.

Likewise, should an application for commercial recreation be approved on high country lands, the rent is likely to be a percentage of the annual turnover of the business. A number of high country farmers have developed commercial vacation enterprises ranging from intermittent holiday accommodation to large-scale skifields, hunting, fishing and other recreation opportunities. Many of the smaller operations have been set up without official approval, but the larger enterprises have all been through cumbersome approval procedures, designed to maintain a public interest in the development while enabling the lessee to acquire preemptive rights for the form of land use not envisaged in the initial pastoral lease. Why there should be a special rental for commercial recreation over and above that for pastoral land is unclear, especially when the rental value will recognise the values of the new commercial possibility.

Clearly the present rental policy is not neutral in the matter of land use. The issue affecting pastoral leases is whether or not the rental value truly reflects the optimal use of the land, and whether there are serious administrative barriers to the attainment of the best use(s) of that land consistent with public policy.

Recent changes in the high country policy of the Land Settlement Board went some way toward removing the anomalies which restrict the development of a land use mix for the high country. Reclassification of pastoral land to farm land, with few restrictions to use, is now possible. Similarly, the former requirements for pastoral leases to be 'economic units' have been removed. It is now intended that all land required for nature conservation, recreation or other purposes should be identified and protected by the Crown.

Since 1 April 1987, the responsibility for the administration, management, development, alienation, settlement, protection and care of Crown land (which formerly rested with the Land Settlement Board) now lies with the Minister of Lands. Some, but not all, of these duties are to be carried out by the Land Corporation on an agency basis. The high country policy of the former Land Settlement Board will be carried on by the Minister of Lands, the Corporation, and the Minster of Conservation. The board's high country policy statement in 1984 made particular reference to a government policy statement dealing with the use of high mountain resources (NZ Government, 1979). This statement set out policies, goals and objectives for the use of mountain lands, including pastoral land and conservation; sustained production; provision of opportunities for work; recreation, relaxation and learning; management of landscape; and maximising choice by present and future generations. The recent policy changes by the Government and the Land Settlement Board concerning rentals, partial reclassification, and protection of natural areas are examples of implementation of government policy.

Each holder of a pastoral lease still holds it for 33 years with a perpetual right of renewal for the same term (Land Act, 1948, S 66.3). Provided the lease-holder has performed and fulfilled the covenants and conditions of the lease, renewal of the lease under the same terms and conditions is assured. Similarly, the holder of any lease registered under the Land Transfer Act 1952 (and the Land Act, 1948) enjoys exclusive possession of all the land in the lease, reinforced by the wrongful trespass provisions in the Trespass Act, 1980.

Implied convenants apply to any lease (Property Law Act, 1952; Brookfield, 1975). Important among them are obligations on the leasor to ensure quiet enjoyment of the property leased, an obligation on the lessee to pay rent, keep the premises in repair, and allow the landlord reasonable right of entry to view the state of repair. Broadly, the general conditions which apply to all leases also apply to Crown leases. In addition, as with many private leases, all Crown leases have 'good husbandry' and 'residency' covenants. Pastoral leases are also subject to special conditions which govern, among other things, the burning of vegetation, cultivation, cropping and grassing, and the numbers of stock that can be carried.

The future course of high country land under various land use classifications is unclear. Under the Land Act of 1948, the Crown has reserved rights of leased land resumption for the whole or any part of a lease (or licence) if the land is required for '...any public purpose...' or in the case of reserves '...in the public interest' (Land Act, 1948, S

117.1, 167.1). For these provisions to be put into effect, the board, acting for the Crown, requires a clearly authorised public purpose and clearly defined public interest. Failure to do so would leave the board open to challenges to its authority or administrative action through the Judicature Amendment Act, 1973.

As the public policy statements imply, major changes to the contractual tenure arrangements of pastoral lease-holders, the Crown may not be able to disturb these arrangements except by consent of the tenant, by resumption, upon surrender of the tenancy or by legislation (McGeorge, 1983, pers. comm.).

In implementing public policies which involve removal of land the Crown apparently will seek agreement of the lease-holder by way of negotiation, but on what basis is not at all clear. A tradeoff of some of the existing rights of pastoral lease-holders for a new 'right' to acquire the fee simple appears to be one possibility. However, for this to happen, the pastoral lease-holder must first seek reclassification of the land in the lease. While it is uncertain how many are likely to do this, it is certain that not all the board's policies can be handled in this way.

It is also certain that, in the matter of pastoral leasehold tenure, both the lease-holder and the Crown could be greatly limited in the achievement of their goals. The lease-holder is limited to pastoral farming and the Crown is bound not to disturb the lease. Should either party embark on the tortuous course of administrative change the outcome is uncertain for both. Inevitably an institutionalised mono-culture of extensive pastoralism continues in spite of public and private policies for a mix of uses involving farming, forestry, tourism, recreation and conservation to which the high country is admirably suited.

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Section III

Demand for New Zealand's Food/Fibre

Chapter 8

Food and Fibre Consumers

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Visitors to New Zealand observe that: (a) it rains a lot, (b) the countryside is green and lush, and (c) there are a lot of sheep and cattle about. The better informed tourist knows that we have (or had) nearly 70 million sheep, but only three million people which gives us the highest sheep/people ratio in the world.

These observations tell us two important facts and a major conclusion about New Zealand's agriculture: first, our climate and topography favour production systems based on grazing ruminant animals and second, that for many agricultural products, we produce more than we consume thereby leaving a surplus for export. The meat, dairy and horticultural products we export generally go to relatively affluent countries which already produce most of what they need. Production of these items is encouraged in those countries by means of various subsidies designed to raise the incomes of agricultural producers; at the same time, imports are discouraged to achieve the same objective. New Zealand is thus in the position of being a residual supplier of products for which trade represents a small proportion of world consumption. We are increasingly dependent on trade, and increasingly restricted due to the agricultural and trade policies of other nations.

The proportion of New Zealand's agricultural and horticultural production which is exported is high in comparison with most other countries. It varies widely depending on the product: over 90 percent for lamb to almost nothing for pig and poultry meat, eggs and some horticultural products. Table 1 expresses local consumption as a percentage of total production for animal and dairy products.

Table 1: Production and Consumption
(1983-84 production year)

Commodity	Production	Consumption	Proportion Consumed Domestically %
	(tonnes '000)		
	(1)	(2)	(2)/(1)
Beef	418.9	127.3	30.4
Veal	14.5	2.8	19.3
Mutton	194.3	69.1	35.6
Lamb	473.4	22.1	4.7
Pig meat	43.2	42.0	97.2
Poultry meat	41.1	41.1	100.0
Butter	291.9	40.2	13.8
Cheese	109.3	25.3	23.1
Powder - whole	125.4	19.8	15.7
- skim	218.9	60.9	27.9
Casein 63.1	5.1	7.9	
Liquid milk -			
(m.litres)	349.8	349.8	100.0
Wool 364.0	55.8	15.3	

Source: 'Livestock and Feed Policy in New Zealand: 1975 to the Present', Centre for Agricultural Policy Studies Discussion Paper No. 8, Masey University, 1986.

Many of the newer horticultural crops have been established specifically for export and are even difficult to buy locally (e.g. Asian pears). The major horticultural exports are apples and kiwifruit and, for these crops, the proportions exported are about 50 and 80 percent respectively.

Table 2: **Destinations of New Zealand's Main Agricultural Exports (percent)**

	Wool		Beef & veal		Lamb		Butter		Cheese		Apples	
	1959	1983	1958	1983	1958[b]	1983	1958	1983	1958	1983	1958	1983
UK	37.4	12.9	11.1	0.8	93.6	43.3	95.7	45.3	93.4	9.3	79.2	12.0
Other Europe[a]	36.8	26.3	2.6	-	1.8	5.5	0.6	-	1.5	8.8	17.5	34.9[c]
USA, Canada	12.2	3.7	76.1	84.3	3.9	4.2	0.3	0.4	1.8	25.2	-	20.8
Japan	3.5	10.5	2.4	2.9	-	3.6	-	0.9	-	30.0	-	-
USSR	0.7	10.8	-	-	-	-	-	31.0	-	-	-	-
China	1.0	12.2	-	0.6	-	-	-	0.4	-	-	-	-
Middle East & Other Asia	0.3	13.1	0.4	4.2	-	37.9	0.2	11.9	-	6.0	-	6.7
Other	8.1	10.5	7.4	7.2	0.7	5.5	3.2	10.1	3.3	20.7	3.3	25.6

[a] Including Eastern Europe and Mediterranean countries
[b] Lamb and mutton combined
[c] EEC only

Source: New Zealand Yearbook

Agricultural exports (excluding forest products) now represent less than 60 percent of total exports. This proportion has fallen from over 90 percent in the early 1970s. The percentage breakdown by major commodity for the 1985-86 export season is: wool 12.6 (of total merchandise exports); meat 17.1; dairy 15.9; fruit and cereals 6.4; other agricultural exports 6.8.

Over much of our trading history, Britain has been the dominant market for our agricultural exports. This situation changed when the United Kingdom joined the European Economic Community in 1973. Britain remains an important market for butter and lamb, but her share of New Zealand's exports of other agricultural and horticultural products has fallen sharply (Table 2). The export markets for wool and dairy products (apart from butter) are quite diversified, without undue dependence on any one. There has been no reduction in our dependence on the USA as a market for beef, and lamb is still dominated by the U.K. and, additionally, the Middle East, predominantly Iran.

New Zealand's share of world agricultural production and trade for our major export commodities is given in Table 3.

Table 3: **New Zealand's Share of World Production and Trade Circa 1980**

Commodity	Production NZ/Total (%)	Exports NZ/Total (%)	
Beef	1	6	
Sheepmeats	10	53	
Wool*	12	31	
Butter	4	19	
Kiwifruit	58	Over 90	(estimate)

* These figures give New Zealand's share of total world wool production and trade. New Zealand's share of total world fibre production is much less - about 0.7 percent.

Source: Author's estimates

Table 4: **Comparison of Growth of Demand for Agricultural Products at Different Stages of Development, Hypothetical Cases**

Levels of Development	% of population in agriculture	Rate of population growth	Rate of per capita income growth	Income elasticity of demand	Rate of growth of food demand
Very low income	70	2.5	0.5	1.0	3.0
Low income	60	3.0	1.0	0.9	3.9
Medium income	50	2.5	4.0	0.7	5.1
High income	30	2.0	4.0	0.5	4.0
Very high income	10	1.0	3.0	0.1	1.3

Source: Mellor and Adams (1986)

While New Zealand has a major share of world trade in dairy products, sheepmeats and wool, these products are relatively unimportant in world agricultural trade which is dominated by wheat and feedgrains. This situation does not strengthen New Zealand's position when dealing in international agricultural trade negotiations. As Ojala puts it: '...New Zealand least of all can command attention to her agricultural trade problems. It is a country offering products which (except for milk powder) are considered to be the rich man's food; it lacks industrial resources important to the multinational corporations, but it is not yet poor enough to qualify for international welfare.'

In economic terms the major factors affecting the total demand for any product include:

(1) Household income (total level and distribution)

(2) Aggregate population (number, age, race and sex)

(3) The price of the food product relative to substitutes for it, and

(4) individual attitudes and tastes.

One tool for analysing the demand is what economists call 'elasticity'. It measures the responsiveness of changes in consumption to changes in prices and income, and is defined as the percentage change in consumption (or expenditure) resulting from a one percent change in price or income. If consumption is sensitive to changes in these variables, demand is said to be elastic (the elasticity coefficient is greater than one); if it is insensitive, demand is said to be inelastic. If one knows changes in total income and in food prices, then one can estimate changes in the total demand at differing price and income levels.

Income elasticities for individual products tend to fall as income increases. For example, the income elasticity for milk in Japan was estimated at 1.3 in 1965 and 0.4 in 1976. Comparing product categories, income elasticities for animal products tend to be higher (more elastic) than those for grains. In general, income elasticities are a useful predictor of changes in demand for food in the aggregate such as 'meat' or 'cereals', but of less value for individual products such as chicken or apples.

For the purposes of analysing demand for food and fibre we can classify the world into the categories listed in Table 4. Essentially they are: (1) low income developing countries; (2) medium income or newly-industrialising countries (NICs); and (3) high income industrialised economies.

Conclusions that New Zealanders can draw from Table 4 are that as countries get richer, the population growth rate falls (except for very poor countries where poverty, famine and disease are the limiting factors). Also, that per capita income growth rates, expressed in percentage terms, first increase and then fall as countries get richer. Finally, aggregate income elasticity of demand for food falls with increasing income.

These factors help identify nations which have increasing rates of growth of food demand as they move from low income to medium income categories. They also indicate nations where rates of demand for food decline as they move from medium into high income brackets. In fact, classifying nations by their population growth, their income, and their income elasticity for food criteria begins to shape the potential market for certain of New Zealand's exportable products.

Taste,or personal food preference, is another strong determinant of demand. Its importance increases as the relative importance of income declines. For instance, in a rich country like West Germany income changes have little effect on aggregate food consumption. New markets for specialised food products can be found that take advantage of changes in tastes and life styles. On the other hand, in a poor country like Chad, incomes are the dominant factor influencing food consumption and tastes are relatively less important. The important thing here is simply to have enough income to buy enough food to live.

A second aspect is that, as countries get richer, it appears that the tastes of their consumers become increasingly 'westernised'. We have seen dramatic increases in the consumption of meat and dairy products in countries such as Japan. Forecasts of per capita incomes indicate that consumers in countries like South Korea will be as rich as American consumers in the foreseeable future. But this does not mean that the Korean diets will be the same as Americans. Common sense tells us that cultural variables are important, too, and they put ceilings on the degree of 'westernisation' of any diet. The problem is that we don't really know where these ceilings are and the ceilings probably change. This is an issue of considerable importance to New Zealand as a supplier of western-type food products.

Relative prices for food items means a lot to shoppers who have a limited food budget. People like to get the most good quality food they can for their money. That's one of the reasons why food stores change prices as often as they do - to attract shoppers. If one food item is priced low because it is in abundant supply, perhaps the buyer will buy more of the item, or spend the 'savings' on another.

A significant determinant of relative prices and their effect on demand is technological change, the primary force behind agricultural production actually increasing by almost one-third between 1972 and 1985. Demand grew as fast as forecast but supply grew faster. The result worldwide has been a fall in the real agricultural commodity prices since about 1980-81. The future holds promise of even greater increases in production using recent technological advances.

An example of how technology has had a major influence on food prices can be seen in meat. The rate of improvement of efficiency in the production of monogastric meat products (pigs and poultry) has been much faster than for ruminants (beef and sheepmeats). In the United Kingdom, chicken was more expensive than beef in 1960; now it is less than 30 percent of the beef price.

In addition to the above variables the demand for food imports in any country is influenced by local supply; that is the total demand for food imports equals total consumption less local supply.

Agricultural and trade policies can also influence relative food prices by subsidising local production through low-priced technology (fertiliser, irrigation), restricting cheaper food imports, and depressing international trade prices by subsidised exports. The effects can be dramatic. Expressed in a common currency, there can be a five- to six-fold between-country variation in the producer prices of such products as wheat, beef and milk.

All of these variables are combined in Figure 1. Note that agricultural policy or trade policy can govern demand for imports, increase exportable supplies, or change the mix of relative food prices. In all cases, however, in order to raise incomes in the long run, exports must be sold at higher prices than they cost to produce.

Earlier we noted that variables besides incomes and relative prices become increasingly important influences on food consumption in affluent countries. Let's take a closer look at three of these variables: demographics, life styles and attitudes.

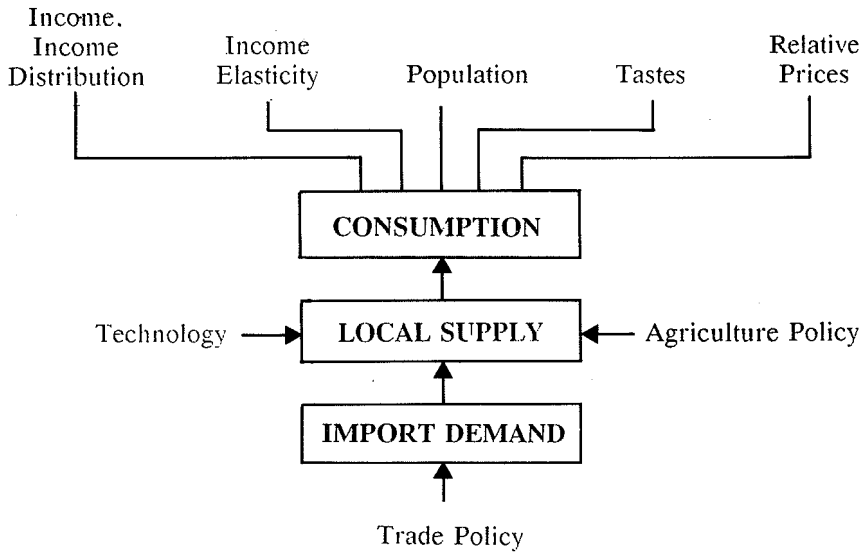

Figure 1: Main Determinants of Demand

Demographics are finely tuned characteristics of a population. For example, birth and death rates have both declined in most affluent countries. The result has been a static and gradually aging population. In New Zealand, the proportion of the population over 60 years was about 14 percent in 1982; by 2016 it is projected to be 20 percent. The 'baby boomers' born in the 1950s are now in the 'nest building' phase of the life cycle and will be retiring by 2000. One implication of these phenomena is that increases in demand due to aggregate population changes will be negligible. Secondly, the demand for products consumed mainly by young people (e.g. milk) will likely fall, while the demand for products bought mainly by older people will increase (e.g. certain types of health foods). Finally, while middle and older age groups may continue to buy products that they were exposed to when young, their children, with exposure to many new food products, may remove the 'old fashioned' items from their food list. There is evidence that lamb suffers from this 'vintage effect' in the UK and the USA.

Today, compared with thirty years ago men do less physical work and work fewer hours. More women have joined the work force and taken demanding professional jobs. People have fewer children - often, none

at all - and have them later in life. Several new words have been coined to describe the various economically important socio-demographic categories: 'Yuppy' (young urban professional), 'Dinkie' (Double income - no kids), 'Muppy' (Middle-aged urban professional), and 'Gruppy' (Grey retired urban professional). Yuppies are often also dinkies and, because of the demographic trends discussed above, are declining in economic importance as compared with muppies and gruppies. The nest built by Mr and Mrs Muppy may not be blessed with chickens, and, having been established by two partners, is often soon inhabited by only one as separation and divorce rates increase. Single-parent households and working mothers are also on the increase.

To really make it in the muppy set, you need to be lean and tanned and generally as beautiful as your genes permit. Hence, there is an increasing level of diet and health awareness. Muppies have plenty of money to spend, but like to get value for it, and consumerism is another important trend on the rise. Categorisation of socio-demographic groups in this way implies a degree of stereotyping, but, in fact, there is increasing acceptance of diversity among the affluent middle class. People are more willing to be non-conformist than they were 20 years ago - and they seek products that differentiate them from their neighbours. Muppies change jobs, and hence houses, a lot. New nests are also built for new partners.

There is a close, but not complete, association between socio-demographic categories and segmentation based on attitudes towards food and food preparation. For example, many yuppy couples, where both people work, do not want to take the time to 'shop around' for the best grocery buys or spend a lot of time in meal preparation. As a generalisation, this is true, but market research has already identified economically important sub-categories of yuppies that are both price conscious, and innovative cooks. It's the in-thing!

Implications for food and fibre marketing are many. Health and nutritional awareness (as well as relative prices) has been one factor causing red meat consumption to fall in most affluent countries. If housewives buy red meat, they want it lean. The consumption of fresh fruit and vegetables has increased dramatically, and there is an increasing demand for 'Fresh is Best' quality.

Yuppy couples, with limited time for cooking, may look for convenience of meal preparation. But, they are also looking for products that are distinctive and healthy. Canned products and old-style TV dinners seem to be out. Microwave, calorie-counted products, such as the 'Lean Cuisine' line are in.

The most dramatic trend is the increase in the consumption of food away from home. In the USA, 41 cents of every dollar spent on food is for away-from-home eating. In Japan, the restaurant industry is bigger than the car industry.

The demand for diversity of food items has resulted in a big increase in the number of lines carried by supermarkets (an average of over 30,000 items in a large U.S. store). Competition for shelf space and placing means that supermarket managers will not handle products that have not been carefully researched and aggressively promoted by the supplier. Products that do not meet profitability targets are quickly dropped.

For wool, most demographic and life style indicators are positive. Nest building, changing marital partners and job mobility all help the demand for carpets. Wool is a 'quality' fibre, fitting easily with the muppy life style. It is particularly suitable for creating individualistic patterns and styles - allowing for a little muppy non-conformity.

The implications of most of the food demand indicators for New Zealand do not, at first, appear very encouraging. This is basically because of low income elasticities for pastoral products combined with low rates of income and population growth in our traditional markets. The Economic Monitoring Group of the New Zealand Planning Council argued along these lines, referring to a Reserve Bank estimate of the world income elasticity of demand for New Zealand exports of 0.6; that is, other things being equal, New Zealand's exports would increase by 6 percent for every 10 percent increase in world GNP.

However, market analysis at this degree of aggregation is not really very useful. The 0.6 income elasticity figure is an average measure, based on an historical pattern of exports which will likely not repeat itself. The changes that have occurred since the 1950s are shown in Table 5. There is no indication that the rate of change is decreasing. Basically, the trend has been away from Europe and North America to the rapidly expanding economies of Asia and the Middle East. In these countries, the income elasticities for meat and dairy products are relatively high. However, New Zealand's niche as a supplier of a particular set of meat and dairy products is not in the least assured due to the availability of cheaper competitive products (e.g. chicken) and the protection of local suppliers through subsidies and trade restrictions (in particular for dairy products). Also, not all of our export products have low income elasticities in affluent countries. Major export products such as wool and kiwifruit are luxury products, even for rich people.

Table 5: **Per Capita Food Consumption**

	Year	Total cereals	Total rice	Potatoes	Fresh Vegetables	Beef	Mutton & Lamb	Poultry	Fresh Milk	Butter	Dairy excl. butter
Germany,	1955-59	90.1	1.6	148.0	49.0	16.1	0.4	2.6	101.5	7.3	134.2
Federal	1973	66.7	1.7	92.7	69.8	21.1	0.4	8.8	92.7	7.3	133.0
Republic	1982	70.9	2.1	74.0	74.1	20.4	0.8	9.9	101.7	6.9	145.8
Japan	1955-59	40.5	113.3	15.7	83.4	1.2	-	0.4	8.0	0.1	8.9
	1973	33.8	91.1	11.8	128.6	3.9	2.5	6.7	27.9	0.6	30.0
	1982	34.7	76.6	14.1	130.8	5.5	1.4	11.1	36.1	0.6	39.3
New	1955-59	83.4	1.3	46.9	66.9	45.6	35.8	2.0	183.8	15.7	192.2
Zealand	1973	73.2	2.0	62.0	69.6	44.4	42.1	7.3	196.0	15.3	215.2
	1982	70.1	2.5	54.9	63.9	47.0	31.0	11.3	155.8	12.9	166.8
Turkey	1955-59	-	-	-	-	-	-	-	-	-	-
	1973	200.1	4.3	43.3	112.6	7.1	9.1	3.6	39.1	1.8	61.6
	1982	190.4	4.0	49.5	141.7	8.5	8.6	3.0	27.4	2.1	54.1
USA	1955-59	65.3	2.5	43.3	68.8	37.5	2.0	14.2	153.6	3.1	194.3
	1973	61.9	3.1	30.7	63.4	49.9	1.2	22.4	141.2	2.2	162.6
	1982	57.3	5.3	32.1	68.4	47.6	0.8	29.1	123.0	2.0	147.9

Source: OECD Food Consumption Statistics, Selected Products and Countries

If we accept that technology could continue to increase production faster than demand, we can expect the real prices of agricultural commodities will continue to fall. Unless the rate of technological change in New Zealand agriculture is faster than competing commodity suppliers, any comparative advantage that New Zealand has held as low cost supplier will be eroded. There is no evidence to suggest that New Zealand will, in fact, be able to take advantage of such technologies as genetic engineering and recombinant growth hormones in a way that will give us an advantage over our competitors. Furthermore, many of those commodity products are the ones most subject to trade barriers and domestic support measures.

Commodity products are, by definition, 'me too' products. Somehow, we have to identify products which are not the 'me too' ones - imitative products, which can be developed 'tailor made' to meet the needs of specialised markets. Such specialised products are not necessarily processed or oriented to the consumer market. They may be for a processor. The niche may be a one or two week seasonal market for a fruit crop or a specialised casein product developed for a particular food manufacturer.

Niche marketing implies that New Zealand agriculture may in the future be a lot smaller in volume terms, with a more diverse product range, and a variety of production schedules. Low cost seasonal production would be secondary to meeting the needs of a specialised market. If we take the market-oriented philosophy a step further, we may find that the best way to meet the requirements of some markets is not to supply from New Zealand at all, but to use product from any appropriate source. This is particularly appropriate if a continuous market flow cannot be sustained from New Zealand. In this case the comparative advantage of the New Zealand supplier would not be as a raw materials producer, but rather as a person or company with marketing and management skills.

These ideas are not as revolutionary as they may sound. Horticultural export producers are used to organising production and post-harvest activities to meet special market requirements. The New Zealand Dairy Board has, on several occasions, purchased dairy products from other countries and further processed them for sale through their established distribution system.

It has been argued for a long time that New Zealand's comparative advantage as an agricultural producer is based on low cost systems for ruminant animal production. For all the reasons we have discussed, this comparative advantage has been eroded. It remains to be seen whether

or not the producers, processors and exporters of New Zealand's agricultural and horticultural products can find a similarly advantageous competitive niche based on activities other than the efficient utilisation of pasture.

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Chapter 9

Trade Relations: Coming of Age

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International relations are an important component of agriculture and rural life. Basically, of course, our rural growth depends on overseas market development - a fact ingrained in the thinking of every New Zealander over the age of ten - but international relations in the broader areas of cultural, social, political and recreational (tourist) matters also have important commercial implications.

Beginning our story in 1930s, we find that New Zealand's international relations were Dominated (capital D) then by bilateral relations with the United Kingdom. This resulted in (and may even have been caused by) the slow faltering development of our national identity (Sinclair, 1986), as it manifested itself in constitutional, trading, immigration, commercial and sectoral policies.

These facts will help to set the scene:

(a) The United Kingdom offered New Zealand its formal constitutional independence (Statue of Westminister) in 1931. The New Zealand Government ratified that position in 1947.

(b) It was not until the early 1980s that the defence of New Zealand itself was given first priority in New Zealand Defence Policy.

(c) New Zealanders travel overseas much more than do residents of other countries even though the real cost of doing so is significantly higher than in other industrial countries.

(d) New Zealand has jealously guarded her 'independence' on the one hand, refusing closer political ties in the past with Australia

(and, it is rumoured, the European Economic Community), while clinging to quasi-colony status on the other.

The ambivalence implied by the above remarks may be a pakeha phenomenon. The Maori people have had the time to achieve nationhood and the stimulus to work to rediscover it. The pakeha, however, may be regarded as collectively conservative and as individually independent.

The world has changed markedly since World War II. There have been explosions in science and technology, in information, international trade, population and the number of sovereign states. There have been major changes, too, for the human environment - the physical and political. Each has been important because increasing information flows and improved technology have created an increasingly interdependent world.

This international process was aided immediately after World War II by multilateral initiatives to facilitate trade (GATT), macro-economic co-operation (IMF, OECD), political co-operation (UN), technological and institutional information transfer (UN system including UNESO, UNIDO, FAO, WHO, WMO, etc.), and aid transfers (World Bank).

New Zealand was a rather reluctant participant in these developments. It was an early member of GATT and the United Nations but held off joining the IMF, World Bank and the OECD for many years. One possible explanation for the hesitancy is that New Zealand remained unsure of itself in the immediate post-war period, having grasped elements of economic sovereignty in a unique fashion during the 1930s. Between 1934 and 1938, under two governments, New Zealand progressively insulated itself from the world economy by adopting an inward-looking development and financial system with an interventionist approach to domestic social, political and economic affairs.

The year 1934 saw the introduction of high, most favoured nation import tariffs. These tended later to impair not only trade but technological transfer and broader international relations with important countries outside the Commonwealth including the United States, Japan and Western Europe. Import selection and foreign exchange controls in 1938 further deterred these relationships and caused Commonwealth ties to weaken as well, although the situation was eased during the War by other programmes like the bulk purchase and sterling area arrangements. At War's end, New Zealand was closer to Britain than before in export activities, and more distant from most other countries, especially those that were about to take a leading role in post-war recovery.

Table 1: **Destination and Origin of External Trade**

Year	Britain	Australia	Japan	United States	Other Countries	Britain	Australia	Japan	United States	Other Countries
			Exports percent					Imports percent		
December										
1920...	74	5	...	16	5	48	17	..	18	17
1930...	80	3	..	5	12	47	8	..	18	27
1940...	88	3	..	4	5	47	16	..	12	25
1950...	66	3	..	10	21	60	12	..	7	21
1960...	53	4	..	13	30	43	18	..	10	29
June										
1960	36	8	10	16	30	30	21	8	13	28
1975	22	12	12	12	42	19	20	14	13	34
1980	14	12	13	14	47	15	19	13	14	39
1982	14	15	13	14	44	9	20	17	16	37
1983	13	12	14	15	54	9	20	17	17	37
1984	10	14	16	13	47	9	20	21	15	35
1985	9	15	15	14	47	8	17	18	15	42

Source: New Zealand Yearbook, Department of Statistics, Wellington

It must be remembered that the depression environment in the 1930s produced a rash of import restrictions and competitive devaluations in many countries. Nevertheless, there are some qualitative differences between typical short-term import restrictions and the full-blown, import selection, industrial 'development' financial control strategy adopted by New Zealand.

A crucial decision period for New Zealand came immediately after the war. International relations had been badly bruised by our insulation policies and reaction had been swift and harsh especially from the British (Sinclair, 1976). The New Zealand economic platform was explicitly bilateral, not multilateral in its international orientation. In short, as New Zealand emerged from its position as a quasi-colony in the 1930s, she was swimming against an emerging tide of world opinion that was globally oriented. The war increased this momentum to the point that multilateral thrusts, already referred to, mushroomed in the late 1940s to aid, or to at least validate, a global approach in many areas of interest. Was New Zealand too unsure of itself to change course at this stage? Were the policies already too entrenched? Was the private gain to particular groups in New Zealand too large to effect change? We may never know.

Major policy strands remained in placed driving the New Zealand economy and some aspects of international relations on a narrower and different course from most other developed countries.

New Zealand trade relations have altered significantly since World War II and some of these shifts can be seen from the data presented in Tables 1 and 2. Table 1 shows the rapid decline in the importance of the United Kingdom as a source of imports and as an export market. The United Kingdom's position was taken over by Australia and Japan who had both been minor export partners in the 1950s. Perhaps the surprising feature of these developments has been the continuing importance of the United States throughout the 40-year period since 1947.

Table 2: **Rank Ordering of New Zealand's Major Trading Partners**

	1947		1985	
	Exports	Imports	Exports	Imports
Australia	4	3	1 (16%)	2 (19%)
United States	2 (6%)	2 (18%)	2 (15%)	3
Japan	-	-	3	1 (20%)
United Kingdom	1 (77%)	1 (43%)	4	4
Iran	-	9	5	-
P.R.C.	-		6	-
Italy	7		7	10
F.R.G.	-		8	5
France	3	10	9	14
Korea, Republic	-		10	
Canada	5	4	11	8
Hong Kong	-		12	13
Taiwan	-		13	12
Malaysia	-	14*	14	-
Belgium	6	6	15	-
U.S.S.R.	8		16	-
Singapore	-	14*	17	6
Fiji	9	7	18	-
Algeria	-		19	-
Saudi Arabia	-		20	9

Source: New Zealand Yearbook, 1947/49, 1986/87, Department of Statistics, Wellington

Footnote: The percentages in brackets refer to the proportion of trade occurring to that market.

The more detailed information in Table 2 shows the increased diversification of New Zealand trade. In 1947, our two largest export markets - the United Kingdom and the USA - represented 83 percent of export earnings. In 1985, our two largest markets amounted to only 31 percent of earnings. On the import side, 61 percent of our imports were sourced in the UK and the USA in 1947. In 1985, Australia and Japan contributed 39 percent of import requirements.

There has been a general drift towards Pacific Basin trade not just with Australia and Japan but with the Peoples Republic of China, Singapore, the Republic of Korea, Taiwan, Hong Kong and Malaysia.

Another important facet of New Zealand international relations is illustrated by Table 3. Over the post World War II period, growth in New Zealand's exports has generally been much slower than in other countries. This is perhaps mainly a reflection of the inward looking growth strategy adopted since the 1930s. One of the side effects of this import substitution strategy was a reduction in the need for exports by constraining imports through selection, achieved by lowering the relative incentive to produce for export.

Table 3: **Growth in Real Exports for New Zealand, Developing and Industrial Countries of the World, 1960-70 and 1970-81, (US$1975 billion).**

	Year			Percent Growth	
	1960	1970	1981	1960-70	1970-81
Primary Exports					
New Zealand	1.454	1.660	1.905	14	15
Developing Countries	35.0	47.0	63.0	34	34
Industrial Countries	44.0	76.0	131.0	73	72
Manufactures[1]					
New Zealand	0.102	0.411	1.154	303	181
Developing Countries	6.5	22.1	89.2	240	305
Industrial Countries	100.0	249.0	505.0	149	103
Total Exports					
New Zealand	1.556	2.071	3.059	33	48
Developing Countries	56.0	100.0	354.0	79	254
Industrial Countries	152.0	342.0	702.0	125	105

[1] Excluding petroleum and products

Source: N.Z. Yearbook, Department of Statistics, Wellington and World Bank, Commodity Trade and Price Trends, 1983/84, Washington D.C.

As indicated in Table 3, New Zealand's total and primary exports grew consistently slower than in all other countries, industrial and developing countries. New Zealand exports of manufactured goods did somewhat better (from a low base) in relation to industrial countries perhaps because the import substitution strategy was buffered after 1960 by counter-balancing export incentive programmes.

The key question concerns the relative importance of foreign and domestic policy.

United Kingdom and the EEC

In a somewhat contradictory fashion, the continuing strong import substitution policy probably kept the export base narrow. New Zealand remained vulnerable as far as market access for farm products was concerned. As world protectionism in farm products grew in the 1960s and 1970s and protectionism for manufactured products fell, New Zealand remained locked into the United Kingdom market. This had broad implications. Decreasing international travel costs enabled even closer cultural, social and political associations with other countries but the New Zealand trade policy continued to focus attention on the United Kingdom. This may have influenced New Zealand immigration policy; it certainly restricted the technology and experience that immigrants from a variety of countries can bring with them.

The UK's accession to the European Community in 1973 saw New Zealand receive special access for farm exports through Protocol 18. This cemented United Kingdom/New Zealand relations. The direct effect of special access appeared to be positive especially for dairy products. New Zealand export receipts for dairy products have probably been higher with the Protocol. But the unanswerable question is, of course, to what extent did the UK relationship preclude the development of other markets and thus lower potential returns?

North America

Trade relations with North America had been weakened by the New Zealand policies of the 1934-45 period. Even Canadian relations suffered to some extent because the British preferential tariff arrangements stemming from the Ottawa agreement (1932) had been affected by the exclusion of Canada from the sterling area arrangements.

In the area of defence arrangements, liaison with the United States increased markedly after World War II with the advent of ANZUS, but the relationship was weakened in 1985 by the disagreement over nuclear ship visits.

The United States was in the forefront of technological developments during the 1950s and 1960s, but there was a time lag made longer initially by sterling restrictions and continuing import selection before these advances reached New Zealand. A notable example was computer hardware which had an implicit tariff of 40 percent until 1986. The effect that such restrictions had on skill development and competitiveness may have been important.

Export trade to North America developed quickly following the lifting of sterling area restrictions. After it reached pre-war levels, growth tapered off in the face of increasing protectionist agricultural import policies in both Canada and the United States. However, had the New Zealand manufacturing sector been more outward oriented from 1945-70, it could be argued that trade would have grown faster as real income growth in the region was high and trade barriers to manufactured items were being reduced.

As Table 1 shows, trade (in both directions) with the United States has remained very important throughout the period. The United States is still the second or third most important trading partner. The United Kingdom held the prime position after the war but that position has been taken now by Australia and Japan. Relatively speaking trade with Canada has deteriorated over the period.

Australia

Commercial relations with Australia have grown rapidly since the 1940s particularly with respect to exports (Tables 1 and 2). Part of this growth may be attributed to the two bilateral trade agreements. NAFTA (New Zealand-Australia Free Trade Agreement) from 1965 involved a managed expansion in commercial trade for particular items. This outward looking move was tentative because the arrangement was subservient to the import selection process in New Zealand (Holmes, 1986).

In 1983, the two countries signed a far more outward-looking trade agreement, ANZCERTA (Australia New Zealand Closer Economic Relations Trade Agreement) which provides, with a few exceptions, for the elimination of all tariffs by 1988. The performance of this arrangement to date has been most heartening in trade terms.

Japan and Asia

During the 1950s, New Zealand relations with Asian countries from Japan in the north to India in the south, developed rapidly, for security and economic reasons. Transport costs were lower than to Europe, and there was a high potential for trade with these high-population, land-scarce countries.

Relations fell short of close union at this time for a number of reasons. The Asian region, especially Japan, was highly protected from increasing food inputs in spite of (or perhaps because of) local production disadvantages. New Zealand itself was already highly protected in the range of goods where Asia held a comparative advantage and we had chosen security arrangements which built on wartime alliances (ANZUS, SEATO). While these alliances were undoubtedly useful in filling a gap left by Britain, they probably reduced New Zealand's ability to open relations with the centrally-planned economies like the Peoples Republic of China. Such reticence was quickly overcome in the case of Japan, Taiwan, Singapore, Malaysia and Hong Kong by the acceleration of economic growth and later by the build-up in technological competence in the region. Japan quickly became a major trade partner in spite of our reluctance to expose New Zealand manufacturing to competition and the lingering mistrust resulting from World War II.

Chronological Approach

An alternative way to view New Zealand's developing international relations since independence is to examine a brief chronology of the establishment of New Zealand's diplomatic posts (Table 4). At times the establishment of these posts followed, rather than led to, commercial and cultural ties but the dates are generally indicative of strengthening ties.

Table 4: Establishment Dates for Diplomatic Posts

Year	Country	Principle Motivation
1935	Britain	NZ Independence (Statute of Westminister, 1947).
1940s	US, Canada, Australia	Allied War Liaison
1950s	Asia	Pacific relations and Security (following ANZUS, Treaty of Manila) Trade opportunities
1960s	Western Europe	Quest for continued EEC trade access
1970s	Pacific, PRC, Middle East, Latin America	Trading Opportunities (FORUM/SPARTECA)
1980s	Africa, India (re-opened)	General relations, trade opportunities

At the end of World War II, New Zealand had posts in London, Canberra, Washington and Ottawa. The first expansion was to Asia during the 1950s. As an aside, it is interesting to note that agricultural attaches were not explicitly included as part of these developments in overseas posts. The Department of Trade and Industry has provided virtually all the support for agricultural trade and the only posts with agricultural counsellors are Paris (related to OECD) and London.

During the 1960s, most development centred on Western Europe addressing the threat to traditional trade caused by UK/EEC plans to expand the economic community. This led to intense efforts to bolster bilateral relations and a multilateral response when New Zealand joined the OECD. This was essentially a rearguard action given that there were fairly strict limits on Europe's demand for imported agricultural commodities. This created a dilemma for New Zealand and diverted resources away from expanding markets elsewhere in the world. New Zealand took further multilateral steps in this decade, finally joining the International Monetary Fund (IMF) and the World Bank. The last-mentioned organisation, in its first report on New Zealand in 1968,

focused attention on the introverted nature of the industrial development strategy - a comment that was not well received in all quarters.

During the 1970s, international horizons expanded in the aftermath of British entry to the EEC, the rapid fall in agricultural export prices, and the oil crisis. Pacific relations expanded with the South Pacific FORUM agreement (Australia, Cook Islands, Fiji, Nauru, Tonga and Western Samoa). In 1981, the FORUM sponsored a regional South Pacific trade agreement, SPARTECA, providing non-reciprocal duty-free access to New Zealand and Australia. By this time the FORUM had expanded to include the Solomon Islands, Papua New Guinea, Niue, Turalu, Kiribati and Vanuatu, with the Federated States of Micronesia having observer status. Diplomatic missions opened in Chile, Peru, Iran, Iraq, Bahrain and the Peoples Republic of China during the 1970s. Finally, in the 1980s, New Zealand diplomatic posts achieved continental coverage with the opening of a High Commission in Zimbabwe.

The creation of posts provides only a partial view of the depth and breath of New Zealand's relations with the rest of the world. They have expanded continuously and apparently at an accelerating pace. Cultural, sporting and educational ties have grown alongside commercial trade, financial linkages and international airline landing rights. The thrust has been bilateral, regional and multilateral.

The Future

New Zealand has come of age in international affairs. The diversity of options involved provides a stimulus to commercial interests to diversify marketing efforts and explore new avenues in a rapidly changing world. There appears to be a strong continuing pull towards bilateralism. Such relations are easier to develop and require fewer resources to maintain. Multilateral approaches provide few opportunities for New Zealand to exert an influence though there have been major successes even there. The new GATT trade talks begun in Punta Del Este will deal with agricultural protection in perhaps the most comprehensive fashion since the inception of the organisation. This may in part be due to a New Zealand initiative. In 1976, the then Prime Minister, Sir Robert Muldoon, convinced the OECD to bring together the mounting evidence against agricultural protection. This work, which is still being completed, has already had effects around the world.

Currently the CER arrangement with Australia has the potential to deepen bilateral interests considerably without constraining other bilateral, regional or multilateral policy. But there are potential dangers.

The Australian economy is perhaps second only to New Zealand (among the developed economies) in its protectionist strategy, although resource endowments in that country have offset to some extent the worst of the effects. It would perhaps be simplier and cheaper for New Zealand to embrace an even broader CER arrangement but there are attendant risks of trade diversion from other markets.

Information and communication technology have drastically reduced the cost of a global strategy, lowering risks and widening opportunities. CER and the South Pacific FORUM provide a broader base from which to face the world. Our international relations have blossomed over the last decade. Can the momentum be maintained or will we retreat back to a narrower global perspective?

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Section IV

New Zealand's Farms and Agribusiness

Chapter 10

Development of the Agricultural Industry

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Development of New Zealand farming has always been tied closely to the industry's prosperity. Prosperous times give farming people the incentive to expand operations while at the same time their higher profits provide the where-with-all to undertake new investment. Depressed circumstances reverse the situation and provide little incentive to making a new investment and greater difficulty in financing it. Farmers sometimes react to a downturn in prices and incomes by trying to increase production through harder work and more intensive use of their farms. However, this can only go so far without additional resources. Production increases obtained in this way are generally unsustainable and therefore do not constitute the farming sector's true development.

The profitability of farming is affected by three main factors. General economic conditions in New Zealand pretty much determine the prices farmers pay for items necessary for production and the prices they receive for that production; conditions of international trade affect the prices received for all of New Zealand's exports; while technology leads to changes on New Zealand farms, which influence the volume of farm production, revenue and farm costs. There are many examples of these influences affecting farm profitability, and hence the rate of further agricultural development.

Along with most of the western world, New Zealand suffered from a long depression between 1870 and 1895. However, the new technology of refrigerated shipping partially offset the economic gloom. Exports of New Zealand sheepmeats, beef, butter, and cheese were all made

possible by refrigeration, and this paved the way for the intensification of farm production. The number of land holdings, the area under cultivation, and the number of livestock all increased rapidly after the first successful shipment of refrigerated meat in 1882. Within ten years of this first shipment, 21 meat-freezing works and 104 butter and cheese factories had been established.

At about this same time technological change was also affecting transport with sail giving way to steam. The change was gradual, with sail and steam competing on routes between New Zealand and the United Kingdom for a number of years. Continued improvements in steam technology allowing freight rates to be brought down led to the demise of commercial sailing ships.

The decline in freight rates was a boon to farmers whose produce was being shipped from New Zealand in increasing quantities. In 1882, the freight rate was two and a quarter pence per pound of meat, representing about 80 percent of the New Zealand farmers' sheepmeat revenues. By 1894, the freight rate had fallen to three farthings a pound, less than 32 percent of the price of meat in New Zealand that year, despite the fact that meat prices had fallen from their 1882 level. In addition, there was a reduction in killing and freezing charges to New Zealand farmers. Sharply falling prices on the British markets were thus moderated in New Zealand by the reduction in costs, freight and processing. As a consequence, farming in New Zealand was not nearly as depressed as that in Britain, and was therefore much better placed to take advantage of the 1895 upturn in commodity prices.

From that time until just after World War I, New Zealand farmers enjoyed a period of widely diffused and increasing prosperity. A chain reaction ensued: the prosperity begun in 1895 led to a surge of agricultural development which spilled over, engulfing the whole economy. Between 1896 and 1914 meat prices rose by 60 percent, butter prices by 36 percent, and cheese prices by 72 percent. In fact, during this 20-year period, farm product prices rose about 30 percent above their 1896 level and non-farm product prices stayed at almost exactly their 1896 level.

The resulting development was dramatic as farmers responded to economic opportunity. Land under cultivation rose by 44 percent, total agricultural land occupied rose by 50 percent, dairy cattle numbers nearly trebled to 750,000, dairy factories increased from 170 to 565, butter production was more than quadrupled, and cheese output rose more than ten times. While sheep numbers rose from only 19 million to 24 million, their composition changed from pure Merinos to half-bred

or Romney flocks more suitable for meat production. As a result, with only a 25 percent change in flock numbers, meat production was doubled. Large rural areas benefited as the rapid expansion of processing and transport industries associated with agriculture quickly spread the new-found prosperity to the whole community.

The 20 prosperous years around the turn of the century influenced New Zealand's agricultural industry for decades to come. It was during this period that the expansion of dairy farming and the intensification of sheep farming saw the growth and importance of the middle-sized farmer. The number of land holdings in the categories from 200 to 5,000 acres rose from 25 percent of total land holdings to 32 percent between 1896 and 1911, whilst the area of land in such holding rose from 21 percent of the total to 45 percent. Over this period the total number of land holdings rose by 25 percent.

The level of agricultural investment was high, as farmers sought to develop their farms through land clearance, fencing, drainage and pasture improvement. Investment was not restricted to physical assets however, and many farmers showed they were prepared to invest heavily in their children's education. The returns from this investment in human capital have continued to be evident in the form of a farming population which is well-educated by world standards, and in the ease with which many farm children have made the transition from farming to urban professions and trades.

Although relevant statistics are skimpy for years before World War I, it appears likely that incomes of the New Zealand farming population first rose above those of the rest of the country. In fact, for most of the half century beginning in the 1920s for which much information is available, New Zealand proved to be a notable exception to the almost universal rule that agricultural industry incomes are below the non-farm average incomes in the rest of society. Even up until the end of the commodity price boom in the early 1970s, there were long periods when New Zealand agricultural incomes were above the rest of society. Even in years when they dipped below, they still maintained a level well above that in other developed countries.

Looking back it seems that the foundations for New Zealand's agricultural affluence were laid during that period of prosperity at the turn of the century. Investment in farms and in farm people during that time raised the productivity of New Zealand farms with the result that, even when commodity prices fell, the greater volume of production helped to maintain incomes. In addition, the move of farm children to non-farm employment, eased by their relatively high educational

standards, meant that the remaining farm income did not have to be divided among an ever-growing farm population as was the case in some other countries. It seems that Gunnar Myrdal's concept of 'circular and cumulative causation' was at work in New Zealand agriculture: high incomes lead to high levels of physical and human investment, which help to keep future incomes high, which thereby help maintain investment and the growth of the agriculture.

The period after World War I began with agricultural commodity prices generally 70 to 80 percent above the average pre-war levels. The steady price increases of the pre-war era were gone however, and prices were much less stable. Price instability was evidenced by wool prices in 1921 being less than half their 1919 level. Dairy prices rose nearly 28 percent above their 1919 level by 1921 and then crashed to nearly 15 percent below in 1922. Farm prices continued to seesaw throughout the 1920s, leading both farmers and politicians to look to the establishment of producer boards which they hoped would both stabilise and improve prices. Despite the price fluctuations experienced, many farmers anticipated a return to the golden years experienced before the war. There was a period of speculation in land, with the high prices paid greatly exacerbating the problems of the depression which was to follow in the 1930s.

Investment in agriculture continued through the 1920s with the number of milking plants and cream separators increasing by about 80 percent. Tractors were accepted and their numbers increased nine-fold from 1920 to 1928. Production also continued to grow through the 1920s, with the increase being particularly marked in dairy produce. Butter for export trebled between 1920 and 1923 and further growth was recorded by 1930 for both butter and cheese.

The collapse of prices in the depression of the 1930s affected the farming industries more than most. The price index of 1926 pastoral and dairy produce for New Zealand (100) fell to about half in 1932 and 1933, and to 83 for wholesale and retail prices.

Differences in these reductions gives one indication of the transfer of income from farming to the rest of New Zealand. Many farmers were forced into bankruptcy during this period, and the experience of the depression influenced the decisions of most of the farmers who survived it for the rest of their lives.

Wool prices were particularly hard hit during the depression. Sheep numbers grew little during the 1930s and traded increases and decreases with dairy cows. Given the relative prices of sheep and dairy products

this is understandable, but commentators also make much of the fact that dairy cows provided a dependable monthly income to farmers, a welcome supplement to the incomes of sheep farmers struggling to meet their monthly outgoings.

Despite the upturn in export prices towards the 1940s, government policies designed to stimulate overall economic growth and get the unemployed back to work resulted in severe balance of payments problems. These led to the imposition in 1938 of wide-ranging controls on most goods imported into New Zealand. Although introduced originally for balance of payments reasons, these controls were to exert a major influence on the shape of industrial development in New Zealand into the 1980s.

After World War II, there was some uncertainty as to whether a repetition of farm price and income movements experienced after World War I would occur. In the 1950s, a boom in commodity prices, sparked off by stockpile purchases associated with the Korean War, gave a tremendous boost to farm incomes. Government incentive programmes encouraged the introduction of aerial topdressing, thus providing a major technological gain. Large quantities of superphosphate were spread over hill country farms. With this and other advances, farm production increased over 30 percent during the 1950s.

The boom of the 1950s, coupled with some relaxation of import restrictions, induced a high inflow of goods. The balance of payments surplus of 1950 quickly turned to deficit, sharply intensified when commodity prices slipped in 1957. In 1958, severe import controls were reimposed, and serious efforts were made to use them as a form of industrial policy encouraging import replacement industries. Import saving was seen as being equivalent to the earning of foreign exchange, and the Government held a national conference to promote the development of manufacturing.

By the early 1960s, it was apparent that many import replacement industries were also highly dependent upon the import of raw materials. They could not, by themselves, be a significant source of economic growth. The major constraint on the nation's growth was seen then to be foreign exchange. Official attention turned again to exports, and agricultural development conferences were held in 1963 and 1964. At the conferences, projections were made of the imports (and export earnings) required if the economy were to grow at a desirable rate. It was accepted that most export growth would have to come from agriculture and attention was directed to ways it could be achieved. The setting of production targets committed the Government to introducing

incentives sufficient to call forth the desired production. Following the conference total production grew by 50 percent through the 1960s. But it is not clear whether the growth was due to improved wool prices, to government incentives or to the greater farmer investment confidence following the apparent agricultural commitment of the Government.

Despite a sharp fall in wool prices in 1967, against which the Government provided no protection or compensation, farm production grew until the commodity price boom of the early 1970s. After the boom production of many commodities fell significantly. Concern over the need to increase the country's export earnings led to a reassessment of agriculture. Farm incomes were low and it was clear that they would have to be improved if agricultural growth were to be resumed. One option would have been to reduce levels of import protection which tended to siphon income away from exporters, but instead, the policy took the route of developing a wide range of incentive schemes for agriculture.

At the end of the 1970s the Government introduced supplementary minimum prices (SMPs) for a range of the major traditional export commodities. SMPs were minimum prices set by the Government, maintained where necessary by direct payments which supplemented those provided by the producer boards. SMPs, together with provisions allowing for substantial tax write-offs for agricultural development expenditures, resulted in a sharp rise in land prices. Prices of farms moved up sharply but, at the same time, world prices for many of the products produced on those farms were falling.

The increasing costs of these forms of assistance to agriculture, together with a range of export incentives for manufacturing industries, helped to generate a series of large fiscal deficits. The rate of growth of the official debt became insupportable, and the Labour Government of 1984 quickly moved to reduce a wide range of Government expenditures. Their move to cut most forms of Government subsidy to industry had an immediate and perhaps discriminatory impact on exporters from all sectors.

Assistance to import replacement industries comes mostly in terms of protection from competition by restricting imports. This protection forces up domestic prices which have to be paid by New Zealand consumers. Protection is regulatory, not a direct government expenditure, and presumably this is partly why the Government has been slower to act on reducing this kind of assistance than it was in reducing direct assistance to exporters. Action to reduce import protection has been promised, but there is little doubt that lags in its timing have hit hard at export industries.

For agriculture, the combination of low international commodity prices and the effective removal of support for agriculture, while assistance is still being provided to other parts of the economy, has seen a sharp fall in farm incomes and a 40 to 50 percent drop in farm land prices. The situation facing heavily indebted farmers who produce New Zealand's traditional export commodities, is the worst since the 1930s' depression. It shows little sign of early improvement.

The current situation is not entirely one of gloom. The SMPs really only retarded diversification into commodities having high export demand. New Zealand's educated farmers still have the drive, the technical knowledge, and in many cases the financial resources to take advantage of significant market-led opportunities which are appearing. The hope must be that the food and fibre systems will respond fast enough, the international commodity markets improve soon enough, and the internal economic problems reduced quickly enough so that an upward growth spiral can begin again.

Chapter 11

Farming Enterprises

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New Zealand's present farming enterprises have been shaped by a variety of factors. In the 1850s, settlers arrived with a heritage of English pastoral farming transplanting it into a new environment capable of growing European pasture species and being farmed with English livestock. The remoteness of New Zealand and the three-month sea voyage back to European markets precluded export of agricultural products at that time. As a result farming enterprises evolved around the production of animal fats mostly for industrial use, wool, grain and some flax fibre. At this time sheep farms tended to be extensive grazing properties producing wool and tallow. Intensive small dairy holdings producing hand-made butter also came into existence.

The character of New Zealand farms altered rapidly after the introduction of refrigeration in the early 1880s. Britain granted New Zealand unlimited market access for meat and dairy products in return for access provisions for British manufacturers into the New Zealand market (including the remarkable proviso that the infant New Zealand whisky export industry should cease).

Farm sizes changed quickly to take advantage of the new freezing technology. Dairying changed from a cottage industry exporting industrial butterfat to cooperative farmer ventures supplying small manufactories of export cheese and butter. Dairy farms increased in number but herd sizes remained small as cows were hand milked. Mechanical milking machines was not introduced until the 1920s.

The opportunity to sell perishable export products affected sheep farm sizes. Extensive pastoral holdings formerly producing wool only were subdivided into smaller farms producing fat stock. Cattle changed over from predominantly draught to beef animals killed for export at the newly established freezing works. These plants for preparing frozen meat for export were widely established throughout New Zealand. They were as much a key to the evolution of the sheep and beef enterprises as the small dairy factories were to the expanding dairy industry. The clear division between large-scale extensive pastoral holdings and small self-sufficient farms gave way to a range of farm sizes and varying enterprises as the opportunity to export perishable products from all parts of New Zealand arose.

The horticultural industry was slow to develop. Most horticulture was confined to fruit and vegetable production for the domestic market until the 1950s, when apple and pear plantings created exportable surpluses. The advent of specialised transport services including air transport, has promoted the export development of high-value high-quality horticultural products. The development and export of kiwifruit has been the prime example over the last two decades.

Horticulture has merged into some dairying operations, as some sheep and beef enterprises have given way to expanded dairying operations. A variety of livestock enterprises have also developed to supply specialised high-value products to markets in Europe, Asia and North America. These include deer, goats, fitch and opossums.

In general, high-volume/low-valued products are giving way to enterprises producing low volume/high-value products which often require large capital investments. The one-man farm is being slowly replaced by multiple-owned and corporate firms with better access to required capital and new technology.

From the time New Zealand was settled, the backbone of cropping has been predominantly feed grains and cereals. Pasture seeds have had a limited place. However, extensive pastoral development and seed export took place in the 1960s-1970s. Ryegrass and white clover crops increased. Specialised crops to provide raw materials for vegetable oils, pharmaceuticals and industry were also introduced. On poorer cropping soils, higher valued livestock opportunities now substitute for cereals and grains. On better soils cash cropping of vegetable overlaps with the field production of peas and beans.

A wide variety of farming enterprises now exists. Starting with enterprises which require the greatest investment per hectare of land and the greatest labour intensity, an approximate ordering is as follows:

Laboratory horticulture (tissue culture, special seedlings)

Mushroom farms

Fish farms and acquaculture

Glasshouses and floriculture

Poultry

Pigs

Fitches

Opossums

Rabbits

Plant nurseries

Intensive orcharding (kiwifruit, cherries, nashi, persimmons, and berry fruits).

Extensive orcharding (apples, pears, stone fruit)

Exotic livestock (llama, alpaca, antelope, thar)

Deer

Dairying

Goats

Cash cropping

Intensive sheep and beef finishing

Agro-forestry

Forestry

Extensive sheep and beef

It seems almost paradoxical that the last seven categories account for more than 95 percent of New Zealand's land in primary production.

As market demands and product prices change, the order of these enterprises can be expected to vary. Competition from other countries, technical substitutes, changing fashions, medical needs and consumer

preferences all contribute to changes in market demand. Farmers respond to these price changes as fast as their knowledge, access to cash-flow capital, fixed capital investments, risk assessment and environment permit. However, there is a very real reluctance to change from familiar profitable farming enterprises to something new unless the potential payoff is high. In a general profit decline as in the 1985/86 season, only some farmers responded by changing enterprises. The remaining farmers, constrained by limited capital and their environment were unable to avoid the bad income losses.

Pastoral farming of exotic livestock and deer are the most profitable enterprises. Dairying, goats, intensive livestock finishing for slaughter, then extensive sheep and beef farming follow in about that order.

Sheep farms predominate over much of New Zealand ranging from large wool-producing high country runs to intensive stock finishing properties on high fertility soils. Pasture growth varies markedly between seasons throughout New Zealand, and it is this variation which determines the sheep farming system and the seasonal schedule of stock management.

Winters are comparatively short in northern areas of the country with a daily grass growth rate of 8-15 kilograms of dry matter per hectare for about eight weeks in June, July and August. In southern areas, daily grass growth falls below 8 kilograms of dry matter per day for up to 120 days during May to September. The high country experiences little or no growth from May to October in many districts. Peak rates of growth occur between late October in northern areas and mid December in the high country. On fertile soils peak growth rates may exceed 80 kg dry matter per hectare per day.

Westerly winds ensure that the western coasts of both Islands are rarely affected by summer drought. They experience constant summer daily growth rates of 25-35 kilograms of dry matter per hectare. The mountainous 'spine' of New Zealand converts the predominant westerlies to a hot and dry wind on the east coast. These winds cause summer droughts about three years out of five in many regions. These droughts may last only 4-6 weeks, which is not too disruptive, or they may set in as early as October and last until April or May with serious effects on stock management. Droughts exceeding four months occur with a frequency of about one year in ten in the most afflicted eastern districts.

The most common sheep enterprise is a flock of ewes breeding its own replacements. It is also the least flexible when unexpected seasonal conditions occur. The flocks typically produce crossbred wool and

lambs for slaughter often sold to other farms for finishing. The ewes usually last for five or six lambings, averaging better than 100 percent lambing and 4.5 kilograms of wool. They usually commence lambing as two year-olds.

Beef cattle are complementary to sheep for pasture management on many of these properties, and on larger hill country farms may exceed half the stock units wintered. In southern areas cattle wintering is more difficult and fewer cattle are carried. Although sheep numbers are approximately equal for the North and South Islands, the North has almost four times as many beef cattle. South Island farms average approximately 2,660 stock units in sheep and 260 cattle stock units in cattle, while in the North Island the farms average 2,635 sheep and 980 cattle (stock unit basis).

The average size of the New Zealand sheep farm is just over 500 hectares almost all of which is grazed. Size varies from 9,240 hectares on South Island high country to 204 and 185 hectares respectively on North and South Island intensive finishing farms.

Over the past decade the terms of exchange (i.e. prices received over prices paid) on sheep and beef farms have fallen. By the 1985-86 season the real net farm income of the average sheep farm had fallen to 21 percent of the 1975-76 level (Meat & Wool Board Economic Service Estimate, 1987). The net income of the average New Zealand sheep farm is shown in Table 1.

Expenditure has been restricted for two seasons. Fertiliser usage and farm maintenance have been below maintenance level for this period. Farm employment has been reduced and there is little possibility of restricting farm expenditure further without affecting the long run viability. Liquidity problems may force further reductions in labour, fertiliser and maintenance to achieve short run cost savings. Long run losses in productivity could outweigh the savings through pasture deterioration, weed invasion, reduced stock numbers and output.

In the 1985-86 period, 28 percent of the sheep and beef farms showed no net income and 58 percent had cash deficits after allowing for drawings, tax and principal repayments (Meat and Wool Board, August 1986).

Table 1: **Income and Expenditure of the Average New Zealand Sheep and Beef Farm 1984-85, 1985-86, 1986-87**

	Actual	Provisional	Estimate
Gross Income	1984-85	1985-86	1986-87
Wool	46,954	42,000	47,700
Sheep	44,411	25,300	25,000
Cattle	21,745	18,600	20,000
Crop[a)]	16,444	16,300	13,700
Other	3,069	3,200	3,000
	132,623	105,400	109,400
Expenditure			
Fertiliser	14,146	8,500	8,500
Repairs and maintenance	9,387	6,400	6,500
Interest	17,736	20,700	21,000
Other	57,146	55,800	56,000
	98,415	91,400	92,000
Net Income	34,208	14,000	17,000
Real Net Income (Base 1975-76=100)	833	300	321

a) Cash crop income shown was obtained mostly on South Island finishing and mixed finishing farms.

The opportunities of sheep and beef farmers to increase farm income by increasing output are limited. Forestry options which may offer profitable opportunities in the long run are affected by short run liquidity problems. But it is technically feasible on most farms to replace sheep and beef cattle with deer, goats, exotic livestock, or with other sheep and beef livestock systems. An indication of the potential profitability of these alternative enterprises is shown by the comparative gross margins which include interest on livestock capital (Table 2). The gross margin is derived by deducting variable costs from the enterprises' gross income. Capital cost differences in the livestock systems can be accounted for by including an interest charge as the opportunity cost of capital invested in livestock.

The seasonal livestock feed demand pattern, or changes in permanent farm labour or farm structures are not accounted for in the gross margins as situations differ among farms. The gross margins are calculated as net dollars per stock unit. Gross margins per hectare are estimated by multiplying by the stocking rate.

Livestock gross margins are affected particularly by changes in interest rates and the exchange rate. The gross margins shown in Table 2 have varied by up to 30 percent within the 1986-87 season. The demand for female stock for less common livestock, deer and goats, has inflated their gross margins beyond their eventual stable level. Exotic livestock gross margins have not been established as the numbers are small and prices are dependent on private and often confidential sales.

Some livestock systems are complementary to each other within a range of stocking rates and classes of farm. Both goats and cattle are complementary to sheep and the sheep gross margins are improved when this occurs. The gain may approach 10 percent of the gross margin.

Average gross margins for sheep per stock unit on sheep and beef cattle farms for the 1984-85 season varied from $19.10 on North Island herd hill country to $33.12 on intensive South Island finishing farms. Cattle gross margins per stock unit varied from $14.20 on South Island high country to $47.33 on South Island mixed finishing farms.

Livestock enterprises are not universally substitutable although cattle and sheep are easily interchanged on many classes of farms. Goats can be grazed on most farms with additional fencing usually costing less than $1 per metre. However, deer can be grazed only if adequate fencing is erected costing approximately $10 per metre for boundary netting and $5 for internal fences. Deer also require specialised yards costing up to $400 per stock unit for small herds. This capital investment makes the

Table 2: **Approximate Livestock Gross Margins for the 1986-87 Season.**

	$/Stock Unit
Ewe flock, breeding replacements and finishing lambs	27.50
Ewe flock, breeding replacements and selling store lambs	23.50
All wool: Merino wethers	26.30
Drysdale wethers	22.50
Breeding cows, breeding replacements and selling weaners	16.20
Beef finishing : buy weaner steers, sell 22 mths	35.00
: buy 18 mth bull calves, sell 30 mths	56.00
: rear dairy bull calves, sell 22 mths	65.00
Deer: Breeding replacements, selling weaners	68.00
Venison, buy weaners, sell 27 mths	40.00
Goats: Angora breeding herd, producing mohair	280.00
Cashmere breeding herd producing cashmere	40.00
Exotics: Llama, Alpaca, Thar, Antelope, others. Minimum	100.00

deer enterprise highly susceptible to economies of size, increasing herd numbers once the sheds and fencing are in place. Trying to build up breeding herd numbers is one reason why deer prices have stayed so high for as long as they have.

Exotic livestock also require specialised fencing and handling facilities. To effect a change to less common livestock enterprises may require additional capital of up to $2,000 per stock unit. Adjustment to long run market preferences favouring lean meat or specialised animal fibres may necessitate additional capital investments and will certainly involve several production period time lags to effect any appreciable change in numbers. A large proportion of deer breeding stock were obtained by live capture and this opportunity no longer exists. It never did for other livestock, apart from limited numbers of goats and a few hundred thar and chamois.

Substitution with dairy beef livestock could be increased but dairy cow numbers are lower now than in 1972 and calf rearing tends to be labour intensive. Traditional beef breeds are favoured by sheep and beef farmers. Prices paid for dairy beef stock have been too low to ensure that all bobby calves have been reared. For example, 44 percent of 926,000 dairy calves are now slaughtered as bobbies. Of this total, only about 750,000 may be suitable for rearing and finishing.

Dairying is concentrated in districts with reliable summer grass, principally in western and northern parts of the North Island, and on irrigated or moist eastern soils. Dairy farm average gross incomes have fallen 18 percent from $111,000 to $91,400 during 1984-85 to 1986-87. While farm working expenditures have been reduced this has not offset the decline in gross income. A comparison of the 1984-85 season with the 1986-87 season is given in Table 3.

Table 3: **Income and Expenditure of the Average New Zealand Dairy Farm 1984-85, 1985-86, and 1986-87.**

Gross Income	1984-85	1985-86	1986-87
Cattle sales (net of purchases)	13,993	9,376	14,704
Milkfat	96,558	96,829	76,146
Other	510	450	532
	111,061	106,655	91,381
Expenditure			
Breeding	2,141	2,569	1,526
Fertiliser and weeds	9,849	9,299	7,305
Repairs and maintenance	6,024	5,936	3,290
Interest	14,648	18,633	19,160
General expenses	30,755	35,096	33,053
	63,417	71,533	64,334
Net Income	47,644	35,122	27,047

Source: MAF Monitoring Report, November 1986

The fall in net incomes from 1984-85 to the 1986-87 season is 43 percent in nominal terms. The net income here is the sum available to meet drawings, taxation, debt repayment and capital expenditure. Dairy farmers have not reduced general farm expenditure (dairy shed costs, electricity, vehicle costs, etc) as these items are comparatively fixed.

It is not easy for dairy farmers to substitute more profitable enterprises to offset falling milk fat prices, although some marginal adjustments are possible in calf rearing policies, dairy beef and possibly some cash crop production. While horticultural enterprises may be

substituted by some dairying in the long run, short run capital requirements for horticultural development make this option financially risky.

Many dairy farms are not suitable for the production of export quality horticultural produce anyway due to unsuitable location, climate, soil conditions and expertise. Deer farming and exotic livestock production could offer prospects as substitutes for dairying on these farms, but their impact would be minimal in relation to the total number of dairy cattle. By contrast, national dairy herd numbers could be expanded by up to 5 percent per year (1 million stock units) if profitability and capital for expansion was adequate.

Cash Cropping

Historically, cash cropping has been characterised by fixed rotations centred on cereals. Pulse crops, brassicas and some seeds are also grown. Cash cropping, apart from maize, is largely confined to east coast regions, the Manawatu and Southland where summer conditions are suitable. A wide range of crops are grown and flexible livestock enterprises are integrated with these to best effect.

The fall of up to 40 percent in the wheat and barley prices in the 1986-87 season has affected the viability of cropping farms. Gross margins for prime lamb production now exceed those of many traditional crops. Cropping farms are the most versatile of farm types as most crops and livestock can be produced. Additional costs for irrigation and livestock structures may have to be incurred to effect some transitions.

Some cropping farms are not as flexible as others due to significant amounts of equipment and rotations constrained by crop disease and soil conditions. The advent of minimal tillage has improved crop substitution and increased flexibility for most cropping farmers by reducing organic matter losses and improving soil structure.

The high capital cost of the specialised machinery required for cash cropping - headers, drills and large tractors - establishes a fixed cost which is not accounted for in the gross margin. Calculations for 1984 (Frengley, 1985) show that machinery costs total $350 per hectare, and that machinery replacement costs were almost equal to fuel, oil and repair costs. The gross margins (Table 4) account for all variable costs but not plant replacement for any tractor or irrigation equipment. As average cropping farm machinery replacement costs are approaching $180 per hectare, some crops are no longer profitable.

Table 4: **Representative Gross Margins for Cash Cropping Farms for the 1986-87 Season**

	$/ha
Ewe flock breeding replacements and finishing lambs (17 SU/ha)	467
Two year ewes finishing lambs (17 SU/ha)	486
Dairy beef	1090
Wheat, winter sown (5t/ha, $200/t)	305
Wheat, spring sown (4.5t/ha, $200/t)	275
Barley, malting (5t/ha, $180/t)	490
Barley, feed (5.5t/ha, $130/t)	270
Barley, winter (2.5t/ha, $130/t)	95
Peas, vining (5t/ha, $220/t)	690
Peas, seed (3.5t/ha, $310/t)	635
Lentils (1.5t/ha, $750/t)	685
Rape, oilseed (2.5t/ha, $320/t)	405
Ryegrass seed (900 kg M.D./ha, $1.20/kg)	595
Whiteclover seed (350 kg M.D./ha, $3.00/kg)	500
Grazing forage	22
Hay 220b/ha	330

Source: Cropping and Livestock Gross Margins, 1986/87, Ministry of Agriculture and Fisheries, Lincoln

When variable costs are a high proportion of any gross income, the margin tends to be sensitive to relatively small changes in yield or product prices. In years when yields or prices are low, losses are easily incurred. Potatoes and some brassica seed crops are a case in point and, although profits may at times be high, they are regarded as risky crops. Additionally, the demand for some crops is limited especially when tricky sales are confined to the domestic market. Thus, despite the versatility of cropping farms, enterprise substitution is not as straightforward as one might think since the changes by some farmers attempting to improve profits are frustrated by other farmers following suit.

Sheep may be substituted profitably for cash crops on many farms depending on the then current prices. This is especially true for farms whose yields fall below those given above or where crop quality is inadequate to obtain the prices shown. The dairy beef numbers are inadequate to support a significant expansion in traditional cropping

areas. However, they could be freighted from dairying districts and effect some crop substitution. Problems associated with rearing dairy calves detract from this enterprise.

Opportunities exist for growing pharmaceutical crops, crops with specialist qualities and export flowers yet they require capital investment and established markets. For example, pyrethrum, rosemary and other herbs, peonies, gentians, tulips, gladiolus, daffodils, gypsophila and status offer prospects. Many crops supply thin markets, involve tight delivery contracts or must be licenced and protected. For some, technical requirements are demanding and investment in specialised processing equipment may be necessary.

The overlap of cash cropping with horticulture on better soils is exemplified by the opportunity to grow fruit trees on mixed cropping farms. If adequate shelter and irrigation are present and frost risk is minimal, orchards of apples, pears, nashi and stone fruit can be established. Most of these farms are also suitable for berry fruits, nut trees, and grape vines.

While the effect on total crop area may not be large as horticultural crops are substituted, their profitability may at times be very high. However, such diversification will require large capital investments, new knowledge and additional labour. The riskiness of these ventures may necessitate financial and ownership restructuring to attract the capital, technical and marketing expertise required. The gross margins for some of these crops may exceed $250,000 per hectare but they involve major risks with crop quality and marketing.

When mixed cropping is in the doldrums, sheep and cattle may be substituted especially on poorer soils. In the long run crop substitution on better soils may offer more important opportunities but will involve intensive agribusiness planning to create effective and manageable specialised operations. Farmers who are reluctant to buy the knowledge of others who have the appropriate expertise will delay enjoying profits if the decision is made to diversify.

Horticulture

Horticultural enterprises which supply domestic and export markets include: orchards, fresh export produce, berry fruits, market gardens for domestic markets, fresh and dried flowers, bulbs, glasshouse factories (tomatoes, mushrooms), nurseries, and laboratories (tissue culture).

Intensive margin horticulture involving advances in biotechnology and genetic engineering will be limited principally by capital for research and human ingenuity. Technological progress in these fields tends to be punctuated by bursts of new technology dependent on some break-through. While it is not possible to estimate the likely impact of new technology on any one farm, it is essential we become aware of the opportunities it poses for New Zealand as well as the competition we can expect. For example, a bovine growth hormone has been used successfully in the United States. It causes profitable increases in milk production per cow of up to 20 percent. Genetic engineering has increased the size of beef animals, chickens, turkeys and ducks. Embryo transplants are practical realities for high quality stock now, and could even make major changes to commercial sheep farms in only three to five years.

The principal development in horticultural enterprises over the last two decades has been the emergence of the kiwifruit industry which by June 1986 was exporting $294 million worth of fruit annually. The crop was introduced to New Zealand last century but extensive planting did not begin until the late 1960s. The profitability of kiwifruit promoted a land price boom in areas suitable for the orchards which displaced sheep and dairy farms. Current high interest rates have affected the establishment of new orchards as liquidity break-even now exceeds eight years, and capital pay-back takes up to 13 years before tax.

Apple and stone-fruit orchards have been extending onto cropping land, and plantings of nashi and persimmons are in their infancy. As time lags of at least seven years occur before full production is reached, capital inputs of $9,000 per hectare are commonly required to sustain initial investments and working capital requirements.

Enterprise substitution is easily effected with short-lived horticultural crops, but when the profitability of long run crops fails, invested capital may be lost. In recent years the berry fruit growers (blackcurrants, blueberries, raspberries) have been affected by falling prices. While the technology to grow many horticultural crops is known, without adequate market research and an appropriate agribusiness infrastructure the risks of capital loss will be high.

Ultimately new enterprises will evolve and substitute profitably for old ones for two reasons. First, to fill a discovered market niche, and second, because an enterprise readily suited to the environment is tied to an existing economically viable market. Future evolution in both agriculture and horticulture will depend on intensive market and technological research, the willingness of growers to buy and use the

expertise of others, and the creation of satisfactory agribusiness structures to attract both knowledge and capital.

It is likely that the swing away from the traditional owner-operator farm will persist. There are many potential advantages. Multiple land ownership through companies and partnerships makes capital more accessible and spreads financial risks. Integrated production, processing and marketing of high-valued products can be more easily ensured with company structures which allow cross shareholding. Information relating to producing and marketing these products is often restricted and can be made more accessible through cross shareholding or cooperative structures.

Finally, advances in farm management are promoted by better information, management control and analysis. Demands for specialised advice are increasing and will continue as product diversity increases. Electronic advances affecting access to information and improved computer software are changing the farmer's business orientation. Demands for advice will follow the need for intensified production and business information and the character of the management consultancy services will change. The broad spectrum of technological training provided at universities is at a crossroad. Greater specialisation will be needed for future consultants. A distinctive role for farm business management specialists has arisen apart from the technological specialties.

In the future, improved farm profits will be allied to changes in ownership structures, industry integration, business management and knowledge. Policies which promote improvement in these areas will strengthen New Zealand's agriculture.

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Chapter 12

Farm Income and Policy

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Farm income statistics tell a great deal about average farms of all kinds but they do not tell much about how farm income relates to farm size or ownership. As a result it is difficult to tell how many New Zealand farmers actually create various proportions of the country's farm production, and therefore how many farmers are imminently concerned with agricultural policy. For example, one knows in the United States that approximately 80 percent of the farm income is produced by less than 20 percent of the country's 2.2 million commercial farms, and therefore that most farm policy really only concerns about half a million farmers.

Perhaps during 1935-1975, it was not essential to know how many New Zealand farmers were affected by Government policy because one simply knew that 'most were'. Several authors (Hawke, Pryde, Lattimore, and Ross, Chapters 1, 6 and 23, 9 and 22, and 10 respectively) note and refer to a mindset of agricultural dominance which pervaded much of Government's perspective and actions during that time. However, since the mid-1970s worldwide forces have caught New Zealand in a maelstrom of change. Using information on the major farm types, and by allocating derived yields and prices to implied farm ownership patterns, an attempt is made to determine how many New Zealand farmers actually generate various shares of the country's farm income.

Dairy

The modern dairy system began in the late 1950s as farmers converted to whole milk collection, sold their pigs, and became specialised milk producers. However, relevant comparisons to current dairy farming only go back to 1967/68. At that time the majority of dairy farmers had less than 100 cows, about a quarter of the dairy farms had herds of 100-150 head, and only about 15 percent of the herds were larger than 150 cows. In the 20 years since then the picture has reversed itself. Almost three quarters of the herds have more than 100 cows, and over 40 percent of them more than 150 cows. It is not too uncommon for a herd to have 600-800 milking cows.

Income has moved in direct relation to the changes in size of the dairy herd. In 1967/68, just over one third of the farmers produced about 54 percent of the gross dairy farm income; in 1985/86, about 42 percent of the farms produced almost 60 percent of the revenue. Farms with over 200 milking cows produced only 3 percent of the country's gross dairy income in 1967/68 compared to almost 33 percent in 1985/86. Herds of less than 100 head comprised about 200 percent of the dairy farms in 1985/86 yet accounted for less than 10 percent of the gross dairy farm income.

Sheep

Attempts to obtain a realistic estimate of the distribution of income from sheep proved difficult indeed. There are eight different major types of sheep farms recognised by the Meat and Wool Board's Economic Survey. Income estimates from strictly wool farms proved somewhat easier to get than for farms running mixed flocks.

In 1971, about 27 percent of the approximately 37,500 owners had flocks larger than 2,000 ewes and exercised control over revenues from about two-thirds of New Zealand's sheep. By 1984, one third of the 39,600 owners, which now included a significant number of small 'hobby farms', had flocks of over 2,000 head and accounted for over three-quarters of the sheep. These numbers indicate that sheep were profitable enough during 1971-1984 to attract almost 2,100 new owners and add some 10 million sheep to the industry. There was still considerable income stability for owners despite the industry's growth.

Beef

Little can be said of the ownership/income changes in beef, simply because the data are not readily available. One can assume, however,

that since joint farming of sheep and beef is the rule rather than the exception, it is highly likely that the ownership situation has been much the same for beef as it has for sheep although income for beef has been more variable.

In 1983/84, about 65 percent of the beef farmers had herds of under 100 head yet they garnered less than 15 percent of the gross beef income. Five percent of the herds, all over 500 head, accounted for over one third of the income; about 40 percent of the herds, numbering 100-500 head, brought in about half the beef income.

The trend is perhaps clearer in beef than it is for sheep: large herds held in a relatively few hands, a large number of small herds held by many owners, and a persistent middle-sized majority accounting for about half of the industry's income.

Wheat and Barley

A scarcity of historical data on wheat and barley growers in New Zealand offers little hope of obtaining accurate information about national trends of ownership related to farm size and income. However, an economic survey of wheat and barley growers in 1984 estimated that about 70 percent of the growers produced about 43 percent of the crop, and about 8 percent of the growers produced about 23 percent. The same trends were evident for barley with just over 6 percent of the farmers producing almost 29 percent of the crop, and some 75 percent of the farmers producing only 40 percent of the crop.

Another survey in 1985 confirmed these patterns. Wheat has not historically been an important export crop and it is only since 1980 that there have been any significant exports of barley. The downturn in world grain prices has effected the profitability of both crops, and from 1986/87, many farmers have decided not to grow either wheat or barley, even in pasture renovation programmes, because of the currently high production and harvest costs and the persistently low returns.

What can be said authoritatively about these crops is that in 1931 approximately 100,772 hectares of wheat were harvested at an average yield of about 2 tonnes. In 1984, wheat was harvested from only 68,680 hectares but the yield had risen to 4.6 tonnes, a 130 percent increase. The boom in barley exports in the early 1980s resulted in a massive increase in barley planted, from 7,377 hectares in 1931 to 166,000 hectares in 1984. Average yields for those acreages were about 2.0 tonnes in 1931 and 4.5 tonnes in 1984, rising almost as quickly as did

those for wheat. It appears we know more about the physical attributes of grain farms than we do their tenure characteristics.

Horticulture

From 1978 to 1986, apple and pear growers have almost doubled their export markets for both fresh and processed products. The domestic market remained fairly stable over that time. Most orchards remain on the small side with over 80 percent of them around 12 hectares.

The same general ownership pattern is also true for kiwifruit producers. About two thirds of the growers have orchards less than 6 hectares, and over 80 percent have less than 9 hectares.

The story of kiwifruit exports is one of even more successful international marketing than for apples and pears. Export sales rose from 2,155 tonnes in 1970/71 to 39,041 tonnes in 1982/83, and 86,454 tonnes in 1984/85 - an increase of over 40 fold! Many kiwifruit orchards have been planted on the basis of this success. While one knows that kiwifruit sales are high, information about numbers of owners, yields and sales by orchard size is still difficult to obtain.

Considerations

The fairly stable and comfortable situation that was farming's lot from 1935 to 1980 permitted an inward farmer concentration on simply producing quantity of product without much attention paid to its being sold. Market forces had been dampened by either long term imperial preference, UK contracts or domestic producer subsidies. Low production costs, no 'foot and mouth' disease, and ready access to US and UK markets meant farmers could sell all they could produce without really much effort. There was little need for farmers to consider product quality or how other world markets might react to New Zealand's products. Many farmers were led to believe mistakenly, that the food world revolved around producers not consumers. Even many consumers were unaware of this situation since they, too, benefited by some lower food prices.

Today's farmers, farm organisations and government officials are increasingly aware of the market forces of product quality, value added food items, consumer preference, market image and non-price competition. The old 'increased numbers game' for farmers has become untenable.

If one takes a 50 year perspective on the sources of farm income one finds the primary commodities of the 1930s are still the big earners now: sheep, beef, wool and dairy. Although cheese exports were less in 1984 than they were in 1931, wool, sheepmeat and beef markets have all grown. Despite subsidised production elsewhere, New Zealand's comparative advantage in livestock production resulted in an increasing volume of sales.

What gives cause for optimistism about New Zealand's role in the world agricultural scene is the number of new commodities being produced and marketed, many of them hardly thought of 50 years ago. Kiwifruit is a good example of an industry really less than 20 years old. Wood pulp and chips is another one. Deer for venison, hides, velvet and recreational hunting is yet another industry barely a decade old. Although goats were present in the 1930s, goat farming for fibre has experienced phenonemal growth recently.

Along with the new products, beef and veal exports have increased 10 times over the last 50 years, dried and condensed milk exports about 40 times, casein about 25 times, and apples and pears about 16 times. Other income opportunities include value added products like fruit juice, pate, fresh and prepared seafood items, processed meats, glass-house horticultural exports and specialty fibres like cashmere and mohair.

The last three years have revealed that many farmers while capable managers in the physical sense of increasing grass, grain and livestock yields, have not been equally competent financial managers. This is the Achilles heel of a great many farmers throughout the world. Foreclosures, bankruptcy sales, and special loan adjustment requests are the result.

Yet many farmers will survive this downturn. How many? No one knows. Certainly not all, and not all who would like to farm will be able to do so. The requirements for successful farmers of the future will be greater than for those of the past. While increased technical knowledge and market sophistication will dominate, a change of attitude about the business of farming will also be necessary. Farmers will be concerned about technology in different ways: soil and water stewardship will be even more important than now; managers will need to be more aware of quality than just quantity of production; and more research into what consumers want and then trying to produce it will be necessary. It will mean following a management system with better knowledge about how one change on the farm will affect its other attributes, and which managerial tools are the most useful to gain a competitive edge. More time will be spent in reading, thinking and

managing; less time will be spent actually on the tractor or in the paddock because, increasingly, that work will be hired out. Once a certain level of farm size and maintenance is attained, most farmers will find they can make more from being managers than they can from shifting stock.

Let us take a closer look. New Zealand farmers have already learned how a mass response to an official urging to diversify production into, say, horticulture or deer can leave many producers gasping from effort and just as low on funds as they ever were. Market awareness does not mean mass awareness. It means careful selection, finding a niche, producing and marketing for it on a scale sufficient to nuture and develop it rather than drown it in instant productivity.

While there still will be much marketing effort directed at Europe and the US markets, perhaps the more aggressive producer/processor/marketeers will be attracted to the Pacific Rim countries closer at hand. In many respects these countries offer more opportunities for tactful and persistent marketing rather than continued battering at the door through GATT. The information presented on international trade (Lattimore, Chapters 9) indicate that the stability of the US market is likely to continue and offer some growth potential, and that the UK and EEC markets will continue to be difficult to access. This also implies that the growth markets for New Zealand involve relatively closer neighbours where there is population growth, more people with money to pay for value-added commodities, and the ability to service these markets becoming ever more technologically feasible.

In the future, government policy makers can sort out four main farmer groups who will be asking for their help in different ways. The plain survivalists in farming - those who have never spent anything on their farms since they began farming, obtained the land freehold, have chosen to remain independent of everyone and maintain a life style geared to the income their land produces - will seek help to keep the status quo against all intrusion.

Another group will be those who have kept their borrowing under control, have a reasonable debt/asset ratio, and can finance their debt repayment from current cash-flow. This group will produce the agricultural entrepreneurs who will press for access to international markets, lessened import restrictions, and help in fighting "too stringent environmental and consumer health" proposals.

Then there are those who are already in trouble due to a reduced cash-flow on top of an unmanageable debt load. These people will

probably not succeed even with revised RBFC loans since most of those readjustments take the form of revalued loans, not lowered repayment bills. They will still have trouble meeting them from current sales. And, finally there will be the large group of small and/or part-time farmers who are not dependent on Government farm finance props because they usually have sufficient non-farm income to live comfortably.

Ultimately, the pattern will emerge of a sizable majority of the production being in the hands of a relatively few farms, many small sized farms operating because their owners approve of the life style, and a shrinking group of medium-sized farms which will blend slowly into one or the other of the two groups as time and inheritance dictate.

Many of the surviving farmers will evolve a different attitude about the issue of ownership or control of their farms. In part it will be their response to risk sharing, and in part it will be because they will need access to capital in order to carry out their new management programmes. While ownership of land is the dream of most farmers, as the last five to ten years have shown, it can be a very expensive dream. Land is an asset which can appreciate - and depreciate - in value. It is one which farmers use all their lives but do not think about selling until the end of their active physical work period when most land is passed to the next generation; one which is fairly difficult to sell at short notice; but one which is a major factor in a manager's ability to borrow and repay capital.

If a farmer could farm the same land, with a certain lease and option to renew, thereby turning the fixed cost of ownership into a variable cost of tax deductible rent, then he/she would have more capital to work with, be less vulnerable to land market forces which affect one's borrowing ability, cause lenders to be more cognisant of managerial ability, and spread the risk associated with farming. For example, if one borrowed one million dollars today at 20 percent to buy land, one would have to bring in $200,000 a year just to pay the interest. On the other hand, if one could lease the same ground for $100,000, the balance could be put into renting additional land, extra inputs, or a variety of other enterprises.

Depending upon the attitude of the farmer, some land could be owned and some rented, the proportion of each being dependent upon the individual farmer's attitude toward risk. Corporatisation is another option. Here, shares in a farm could be sold to an investor who would buy into the farm, sharing the risks of both production and marketing.

This approach is more pertinent when value-added items are integrated into a straight production enterprise.

A change in the way of looking at farming and of approaching the farm use of land and water, however, does not necessarily mean that there will be a change in the attitudes and values of those who actually farm. Many renters have a more active concern about conservation of land and water than do the actual owners who are not active on it each day.

There is no denying the 'Kiwi ingenuity' practised by farmers. There is much of it, inventive, adaptive and creative. However, this ingenuity manifests itself mostly on farms, and does not extend past the farm gates into marketing, or into actually moving a raw farm commodity into a value-added package offered for sale. The potential promise of this on-farm ingenuity seems not yet fully convinced it can extend itself to some type of value-added production. Yet most of the managerial problems are the same type, albeit on a different scale and with a different clientele. Perhaps the obstacle is perspective on the kinds of value-added products that might work.

Value-added products can attract a variety of different items. For example, shredded and sliced vegetable packs in various sizes are increasingly popular with restaurants, hotels and fast food service places. This trend is compatible with the increased importance of tourism in New Zealand and in the Pacific Rim countries close by which are serviced by refrigerated air cargo planes. The horticulture industry already grows many vegetables throughout the year, thus ensuring a continuing supply to the market. One approach would be to conduct a market demand cost feasibility study for: vegetable packs, transporting the product, and distributing it to selected buyers emphasising delivery of a combination of fresh produce with little or no chemical contamination. If the venture seemed economically possible, then it would require the management task of assembling growers of a variety of commodities to participate in the venture. Payment could be for the commodity only, or for a share of the value added pack as sold to the ultimate buyer.

Special markets such as that for processed baby food, could be explored. New Zealand's contaminent free environment could be capitalised on. Advertising campaigns could push the idea that since the 'cleanest' vegetables are found here, that therefore the processed fruits and vegetables created here are naturally the world's "purest". Markets would be not only for young people, but for the rapidly growing group who are concerned about their diet and health, for hospitals and other public health agencies concerned about their ability to provide wholesome meals for both clients and patients.

An important new development, accelerated by the recent hard times, is a growing interest in bio-control of pests as being less expensive than chemical controls, equally effective, and certainly more sustainable. As such, they also bring in more net revenue to the producer when introduced to consumers increasingly interested in less chemical involvement with their food. There is also the possibility of producing the various bio-control predator insects, and so on, for export.

New technology indicates additional ways to improve farm income. With the ability to purchase and import strains of imported genetic material, there is no reason why New Zealand's farmers cannot excel in the embryo-transplant business for growing the best breeds of wool, meat or exotic animals. Rather than considering a limited sheepmeat and beef market, perhaps it would pay a grower to establish a mid-eastern lamb breeding programme, a fine carpet wool breeding programme, a North American fat lamb breeding programme, or even a zoo replacement stock programme? The object would be to translate culturally different market demands for animals into a responsive animal breeding programme. This would necessitate improved ways of doing business involving knowledge of contracts, leases and finance. It would also require allowances for building up breeding herds to perform for those markets, and for determining a salvage value for the herds when the markets evolved into some other market opportunity.

Concerns about rural living, the 'way of life ethics', and the maintenance of rural communities are currently evident throughout New Zealand. There is no doubt that as farm income patterns shift so do living patterns for rual communities. Fewer farmers means less commercial activity for a community, and a likely decrease in population. Yet many communities have responded to the challenge by developing other sources of income such as recreational hunting, fishing and farm visits. The magnificent horse industry and the attitude towards horses and racing in this country must be viewed as an active and positive force for rural areas.

The raising of exotic animals, apart from deer and goats, can also hold promise for interested and capable persons. The breeding of wildfowl for both domestic and overseas markets could develop into a large industry. Ducks, pheasant, quail, guinea hen and peacocks could be raised under domestic conditions in much the same manner as deer have been domesticated. Markets for these birds could be found overseas in Korea, Japan, Hong Kong, China, Singapore, Indonesia and the Malay peninsula. The limits could well be those imposed by the lack of entreprenuerial imagination and drive rather than Government regulations or physical boundaries.

New value added endeavours could also prove complementary to the sale of traditional commodities. For example, instead of selling grain as only grain, various mixes could be packaged for 'wild fowl' feed, which could then finally be sold in the form of processed chilled or frozen birds on gourmet markets throughout the world.

New technology has also extended itself to fish farming located from the North Island to Marlborough Sounds and Stewart Island. Although a relatively new industry for New Zealand, it has already established itself well for mussels and crayfish in Japan and North America, and for several kinds of fresh frozen fish world-wide. In fact, when it comes to a species like orange roughy, it is difficult to obtain a fresh serving here in New Zealand!

One fact that cannot be escaped is that the commercial salmon farming interests will clash with those of the deep sea trawlers, and both will have to compete with the sports fishing people. Trout will also become vulnerable to commercial interests of all kinds. There are many markets abroad which would delight in obtaining fresh, or frozen New Zealand trout. It already has a positive world-wide reputation.

Ultimately, the Government will have to make a decision about how much it wants to appease domestic sports people and associated services, or encourage employment growth and development in other kinds of commercial fish markets. The issue will be one of equity: is it fair for sportspeople to lock up one of the world's great salmon and trout producing potentials without considering the ensuing employment possibilities? Cannot the three industries be run simultaneously on some basis? And isn't determining that basis, perhaps, the real issue?

Share farming perhaps may be worth another look. For example, there is the possibility of lamb or beef producers sharing in the fat animal price or carcass value even though they do not have the grass or grain to finish the animals. Hill country producers could place store lambs in fattening areas with a grain farmer supplementing the grass if needed for special markets. All three could then share in the final value on some pre-determined basis, especially if the animals were sold to a specific buyer selected because he paid for the quality of animal produced. Care would have to be taken in determining the share arrangement, but it could be done and it could reduce the cash-flow problems that are now besetting New Zealand farmers.

The Future

There is a future for many New Zealand farmers but it will be different. Management outlook will have to change to meet a variety of new forces including new products, new forms of value-added food items, and new ways of coping with risk.

The recognition and change process has already begun. Farm income will follow new forks in old paths. The better farmers will choose correctly among those new options. Fewer differences will be evident between the successful farmer and the successful urban business person. Ultimately, we'll have to face the fact that most business people make the same kinds of decision, draw on the same sources of capital, and sell to the same kinds of people.

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Chapter 13

New Zealand's Agribusiness

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Agribusiness, in its widest sense, comprises the entire agricultural system (Figure 1). These activities make up a complex interrelated system, the principal elements of which are usually defined as the farm input sector, the farming sector, and the product marketing sector. As in any complex system the effective functioning of the whole depends on each part efficiently servicing its dependent operations.

In early agricultural systems the farmer provided all input requirements, grew a crop, undertook further processing where required, and then transported it to a marketplace. But as agriculture evolved the farmer found it more profitable to deal with agricultural production allowing others to specialise in the input supply, processing, distribution and selling activities. Lower costs, higher prices, and more varieties of product were the initial on-farm results of this specialisation. Today the farmer is a specialist producer of farm output, choosing a mix of inputs and enterprises in an attempt to maximise profit, and adjusting operations where the relative costs or prices of these factors alter.

The importance of agribusiness becomes evident when consideration is given to its position between the farmer and the consumer. One global estimate has major agribusiness companies processing and marketing over two thirds of rural produce and they are often claimed to be a contributor to the low prices paid to farmers for produce. On the cost-input side of farming, agribusiness products and services (machinery, marketing, chemicals, transport insurance, credit) influence at least half of the input costs and can strongly affect cost structures in farming through product differentiation and monopsonistic pricing practices.

Outside the farm production sector, agribusiness has certainly achieved oligopolistic powers in many areas of the input and processing sectors. Oligopolistic agrifirms have collective purchasing and marketing powers enabling them to wield influence over farmers who are not concentrated in many supply and sale markets. On the other hand, consumers and the owners of agrifirms have reaped many benefits - consumers with product variety and lower prices, owners with competitive returns on their investments.

Goldberg (1974), summarised the importance of agribusiness as "employing over 60% of the world's economically active population ... agribusiness involves all those individuals and organisations engaged in the production, processing, transport, storage, financing, regulation and marketing of the world's food and fibre supplies. In effect agribusiness is a seed-to-consumer system composed of a series of closely related activities that together enable agricultural produce to flow from the farm to the marketplace..."

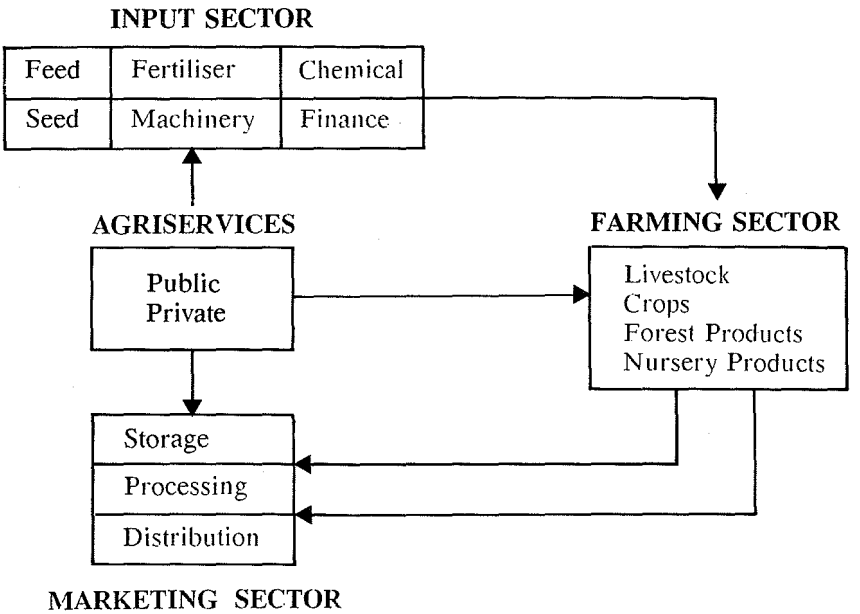

Figure 1: Phases of Agribusiness

The Farm Input Sector

The farm input supply sector emerged when farmers realised that, by purchasing input supplies from those who held a comparative economic advantage, they could increase their profitability. Recognition of this comparative advantage increased as transportation difficulties decreased, and resulted in the formation and growth of the substantial farm supply businesses which today provide such requisites as chemicals, fertilizers, machinery and finance.

Over the past few decades the mix of inputs supplied to farming has changed dramatically. The major area of this change has been the substitution of other inputs for labour. Not only has labour become relatively more expensive (which alone would account for some of the shift), but technological advances have made other inputs more effective resulting in increased farm productivity. Good examples of this are the seed supply industry where biotechnical advances have caused substantial increases in productivity for very little extra cost, and the farm machinery industry where technological advances have rapidly made labour highly productive.

Farm inputs can be generally divided into four classes: energy, farm maintenance, capital assets, and farm credit. Energy inputs include power, fuel, and the labour provided by the farmer, his employed staff, and assorted contractors. Farm maintenance inputs include supplies such as animal health, weedicides, pesticides and other chemicals, fertilizers, seeds, transportation and administration. Farm capital asset inputs include livestock and machinery, fencing, water supply and the land itself. Farm credit inputs include the long and short term farm credit provided by trading banks, stock and station agencies, finance companies and trade credit.

Much of the farm input sector is composed of small, local, independent businesses such as the land agency, accountancy firm, shearing contractor, veterinarian, and timber mill. However there are also a handful of very large businesses dealing with farm inputs such as chemicals, fertilizers, farm credit, and general farm merchandise best characterised by the stock and station agencies. The major corporations involved in agrichemicals in Australia and New Zealand are listed in Table 1.

Table 1: **Major World Agrichemical Corporations**

	Corporation Present in Aust. & N.Z.	Base Country	World Agrichemical Sales 1976 Total US $m
Bayer	Yes	W. Germany	1300
Ciba-Geigy	Yes	Switzerland	975
Shell	Yes	U.K.	600
Monsanto	Yes	U.S.A.	525
Rhone-Poulenc	No	France	400
ICI	Yes	U.K.	390
BASF	Yes	W. Germany	365
Stauffer	Yes	U.S.A.	325
Du Pont	Yes	U.S.A.	320
Cyanamid	Yes	U.S.A.	290
Dow	Yes	U.S.A.	280
Union Carbide	Yes	U.S.A.	270
Eli Lilly	Yes	U.S.A.	260
Kumiai	No	Japan	194
FMC	No	U.S.A.	192
Schering	Yes	W. Germany	180
Hoescht	Yes	W. Germany	175
Rohn & Hass	Yes	U.S.A.	160
D. Shamrock	Yes	U.S.A.	130
Sandox	Yes	Switzerland	124

Source: OECD

The use of all farm inputs, except labour, has increased over the years. The substitution of other inputs for farm labour has coincided with fewer but larger farming units, and some decline in rural population.

With increases in the range and quality of available inputs one would hope for increases in productivity and a reduction of labour costs. But one input item such as the cost of finance can alter the whole situation and well lead to reduced profit levels.

Table 2 shows the composition of farm costs in New Zealand (including marketing costs), and groups the costs on the basis of the proportion of relevant agrifirms' business which can be said to be conducted with the farm sector.

Table 2: **Composition of Farm Costs (Average Range 1984)**

Proportion of Firm's Business with Farming	Cost Category	Percent Range
Most	Machinery and Maintenance	15-20
	Chemical and Veterinary Supplies	3-8
	Fertiliser	5-8
Partial	Marketing	5-10
	Interest and Rent	7-12
	Seed and Fodder	5-10
	Contractors	5-8
Little	Wages	10-15
	Electricity and Fuel	5-10

The significance of the input sector is particularly evident in developments in the agrichemical and agrimachinery industries. As observed by Sargent (1985) these industries are firmly established as "the principal architects of the 'second revolution' from which today's industrialised system of agriculture has emerged".

The Farming Sector

The farm production sector, has been dealt with in detail in Chapters 10-12. Some summary observations are provided here. Table 3 shows farm numbers by type and average size.

Table 3: **Numbers of Farmers by Class, and Farm Size (1984)**

	Farm Numbers			Class Area Average Size	
Farm Type	No.	Prop'n %	1000 ha	Prop'n %	Area/Farm ha
Dairy	15711	20.7	1356	6.4	86
Sheep	28129	37.1	11859	55.8	422
Crop	2196	2.9	1421	6.6	575
Pigs	625	0.8	18	-	101
Horses	777	1.0	18	-	30
Deer	466	0.6	44	0.2	23
Other Livestock	2786	3.7	821	3.9	295
Poultry	444	0.6	7	-	16
Market Gardening	1737	2.3	37	0.2	22
Orchards	2520	3.3	52	0.2	13
Other Horticulture	2510	3.3	52	0.2	21
Other Farming	3483	4.6	529	2.5	152
Plantations	791	1.0	2901	13.6	3668
Idle	5429	7.2	1947	9.2	3593
TOTAL	75745		21166		

Source: Agricultural Statistics 1984

Recent events in the farming sector show a trend toward larger and more specialised farming units, a decreasing input/output ratio, an increase in productivity per labour unit, and, despite some recent trends to the contrary, a general increase in both gross income and costs of production.

The major reason for these changes is the improved management skills of farmers. Concentrated efforts in the areas of production management have enabled others to specialise in the supply of inputs, and in the processing and marketing of outputs.

The Produce Marketing Sector

In early agricultural systems the farm was located adjacent to markets. As the geographical distance between the farmer and the consumer increased due to urbanisation, traders collected raw farm products in central locations and transported them to distant marketplaces for further processing and sale. The farmer frequently found that the middleman-trader exploited this situation by passing on high charges and setting low prices, but realised the trade off: that allowing the trader to undertake these functions also provided opportunities for specialised on-farm activities.

Traders have developed into very effective, and in many cases very large organisations with diverse ownership structures. This development has affected farmers in three ways. Firstly, many have lost touch with the needs of the consumer - the direct contact was broken. In other cases, accurate market signals have not been conveyed because most traders tend to protect their own competitive interests rather than the farmers'. Secondly, farmers have become "price-takers", accepting prices offered for their product in the belief that competition between traders provided an efficient commodity market. Thirdly, farmers have increasingly believed that it is a sufficient business practice just to produce, relying on the trader to find the best market for the product.

The eighteenth century heralded a modification to this system. In an attempt to control the destination of product and the costs of marketing, groups of farmers banded together and created their own cooperative organisations. The entrepreneurial profit was now returned to the farmer. Similar farm input supply cooperatives provided beneficial purchasing power and economies of scale in the area of farm supply. This new found "market power", which was particularly evident in the United States, did in fact provide some rationalisation of product flow, and did increase returns paid to the members of the cooperative in some cases. However, it did not guarantee enterprise success. The farmer still remained divorced from most markets. Employees of the cooperative behaved very much as did the traders of old - i.e. their allegiance was to the firm rather than to the farmers. Farm profitability may have increased but farmers have had to contend with the self-interest actions of cooperative managers. Cooperatives were not the panacea many farmers expected.

In New Zealand this reliance has remained a bone of contention with many farmers who believe that the only role of a marketing organisation is to pay farmers more for their commodities than that which could be secured from individual farmer involvement. It has been a concern by

farmers that marketers have overstepped their role by trying to determine the direction of an industry. This concern and consequent lack of trust has been exacerbated by several factors: the lack of correct market signals reaching farmers; price protection and smoothing schemes supported by Government subsidies; and the general belief of farmers in their own marketing infallibility. In addition, the fear of change, especially where farm resources are both expensive and immobile, has caused some farmers to resist change. The lack of business expertise exhibited by some product marketers has also reduced farmer confidence in the marketers' ability to undertake the marketing task. Government policies, lack of expertise and lack of communication have sometimes contributed to this state of affairs.

The marketing sector can be classified on the basis of either product type or function. A general classification on the basis of product type involves the following:

Product Type	**Example**
Grain	Lion breweries
Meat	Waitaki NZR
Textiles	Feltex NZ
Fruit	NZ Apple & Pear Board
Processed Food	Wattie Industries
Bio-tech	Genestock NZ

Classification on the basis of function includes:

Function	**Example**
Transportation	Newmans Group
Promotion	NZ Meat Producers Board
Retailing	LD Nathan
Wholesaling	Wilson Neill
Processing	Northern Roller Mills
Diversified Service	Fletcher Challenge
Insurance	Farmers Mutual

To exemplify this sector a case study of food processing in New Zealand is set out below.

CASE STUDY

The Goodman Fielder Ltd Group and Watties Industries

- Food Manufacturing and Distribution -

Goodman Fielder and Watties dominate food processing in New Zealand. Through takeover activity they have proposed to increase their control over large segments of the New Zealand food manufacturing sector. They would also increase their share of food processing and, in many instances, would have integrated vertically, both downwards and upwards, to gain the full benefits of industry control. For example, the involvement of Goodman Fielder in flour milling has extended to bread making, stockfeed milling, starch and related products, breakfast cereals and cakes and pastries.

These companies illustrate both oligopsonistic and oligopolistic power in the food industry. A vast network of interrelated industries and satellites - transport, insurance, packaging, selling, advertising, research and development, finance, shipping, refrigeration, storage and retailing - exemplifies the farm to retail spread of control which these firms have gathered to themselves. Table 4 gives an estimate (1985) of where the New Zealand food dollar goes, and shows the impact which a totally integrated firm can have on that dollar.

Table 4: **Destination of Consumers' Food Dollar 1985**
(Percentage)

Farmer	25 - 30
Marketing Boards	5 - 10
Wholesaler	10 - 15
Processor	25 - 30
Retailer	25 - 30

Goodman Fielder, Ltd is currently seeking a merger with Watties Industries, Ltd which, if successful, will put them into the mega food industry class. At August 1986, the Goodman Fielder group had strong links with a number of prominent New Zealand and Australian companies (Figure 2). The proposed merger of Goodman Fielder (total assets $1.8 billion) with Wattie would form a food conglomerate with $2.2 billion in total assets and shareholders funds of $1.1 billion and borrowing of $870 million. They would extend a strong position into both Australian and New Zealand food markets.

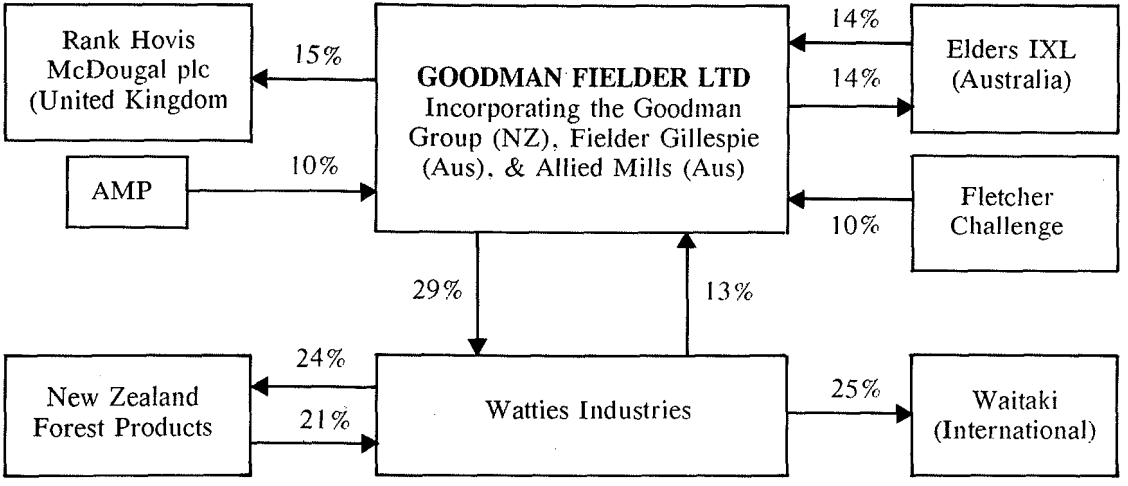

Figure 2: **Organisational Chart**

In New Zealand the structure of the flour milling industry is characterised by a high degree of aggregation of ownership. Approximately 68 percent of the present New Zealand flour quota is held by Watties and Goodman Fielder. In addition Watties and Goodman Fielder have ties with 27 bakeries which account for 60 percent of the bread baking flour usage.

Watties' wholly owned subsidiary, Northern Roller Milling Limited (NRM), has a dominant part in the stock feed industry. It is part of a well (vertical) integrated industry. NRM sells 80 percent of its production to the poultry industry. Wattie, through its 100 percent shareholding in General Foods Poultry and its ownership of hatcheries and processors, has a dominant influence over the poultry meat industry. Harvey Farms Limited is the only independent poultry meat producer providing any degree of competition to Wattie.

The current manoeuvring of Watties & Goodman Fielder is viewed as a necessary tactic to make food production and distribution efficient, both from a local and international perspective. Their approach to rationalisation, driving down unit production and distribution costs, is seen as necessary to bring low prices to consumers and to enable the New Zealand food industry to become competitive, internationally. Goodman Fielder, Australia's largest food group, can no longer expand into existing Australian and New Zealand markets. Markets in the USA, Britain and Asia are likely new targets. In the context of the New Zealand food industry the question is to what extent do these market and product concentrations result in low payments to farmers and high prices to consumers. Debate on this issue could hold producer's and consumer's attention for some considerable time.

As this case also illustrates, the farm sector of agribusiness is affected by the level of food processing. Estimates suggest that over 90 percent of everything we eat has been processed in some way. Even eggs are collected, packaged and transported. As more processing and value-added operations occur, pressures on containing payments to farmers will continue. Table 5 illustrates the extent of major products raw materials affected by this firm's food processing activities.

Table 5: **Major Product Lines**

Goodman Products
Bread: Fresh Bake, Golden Bake, Granny Scott, Homestyle.
Pies: Bellamys, Cobblestone, Pampas (and pastry).
Flour and pasta: Diamond.
Jams: IXL.
Gelatine: Davis.
Petfoods: Rover, Tux and Tuxettes.
Textiles: Bonds, Legalong and Nightlites hosiery, Tree, Tampax.
Watties Products
Frozen and canned produce.
Tip-Top ice cream.
Irvines pies.
Crofters and Shrafts cheesecakes.
Tegel chickens.
Bluebird Chippies, Rashuns, Twisties.
Flemings rolled oats, flour, muesli bars.
Haymarket curry and rice rolls, Frying Saucers.
Jim Bull potato products.
Oak jams.
Betty Crocker cake mixes.
Sunshine jellies, cordials.
OXO beef and chicken stocks.
DYC vinegars.
Petfood: Chef, Felix, Gourmet, Biscats, K9.

On May 12, 1987, the Commerce Commission turned down the proposed merger between Goodman Fielder, Ltd. and Wattie Industries, Ltd. The firms promise an immediate appeal to the High Court.

The Commission's reasons for rejection were that in New Zealand's currently limited growth economy, increased market share would result from the new enterprise. As a result, the deregulated wheat and flour industry could suffer independent plant closures and worker redundancies, particularly in the South Island. The merged company (which would be Australian, and its thirteenth largest by capitalisation) would have controlled 90 percent of the flour milling in the North Island and over 40 percent in the South Island; 52-60 percent of the bread market with a greater share for sliced bread; completely controlled wet

yeast production and all the bran and pollard for the poultry industry; and likely more than 80 percent of the poultry meat industry. The Commission indicated that while the merger would certainly bring about production and market efficiencies, it was by no means clear that those benefits would pass to the consumer through lower prices.

Legal Structures

Sole proprietors and partnerships comprise the largest proportion of New Zealand's agribusinesses. In the farm input sector many of the professional and labour providing businesses are of these forms as are the majority of farmer-producers (Table 6).

Table 6 shows the ownership structure of the farm sector. The dominant types are individual ownership and partnership.

Table 6: **Type of Ownership - Farm Sector At 30 June 1984**

Type of Ownership	Area Hectares ('000s)	Percentage of Total Occupied Land	Number of Units	Percentage of Units
Individual ownership	5,614.7	26.5	31,307	48.7
Registered private company	3,136.3	14.8	7,038	9.2
Partnership	5,485.7	25.8	28,400	37.1
Government or local authority	5,252.7	24.7	897	1.2
Registered public company	349.4	1.6	229	0.3
Trust	1,185.0	5.6	2,439	3.2
Cooperatives	200.5	0.9	323	0.4
TOTAL	21,224.3		76,633	

Source: 'Agricultural Statistics', Department of Statistics, Wellington.

In recent times the use of "special partnerships" as a vehicle for ownership in the farm sector has become popular. These have included those formed privately, for small groups of investors to facilitate the syndicated ownership of farm land, and publicly, for larger groups to secure the ownership of large livestock (Kaipara Deer Partnership) and horticultural enterprises (Agrisystems Partnerships). Recent taxation changes may restrict the use of this vehicle in the future.

The use of cooperatives, has been restricted mainly to the input supply and marketing sectors of the agribusiness system. Input supply cooperatives are most commonly found in the areas of fertiliser supply (Ravensdown) and general merchandise (Combined Rural Traders). While in certain geographical areas the fertiliser cooperative may hold a virtual monopoly, those involved in general merchandising control only a small market share, and the usual philosophy of many members appears to be to use the cooperative as a means of keeping the opposition "honest". Because the supply cooperative rarely offers its members credit facilities (other than normal monthly trade credit) their role is likely to remain unchanged. The principal exceptions to this credit rule are the dairy cooperatives which, by virtue of the fact that they also control the majority of the income of their members, do allow some credit facilities for purchases made through their retail merchandising arms.

By far the greatest turnover of agribusiness is conducted by corporations registered under the Companies Act (1955). Along with a relatively small number of large publicly listed corporations such as Wattie Industries, NZ Forest Products, Carter Holt, Fletcher Challenge and Goodman Fielder all of which are among the top ten New Zealand companies on the basis of market capitalisation, there is a myriad of small public and private companies which effect much of the business of the agricultural sector. Ten dairying cooperative companies are among the top 250 (turnover) companies in New Zealand. The largest, NZ Co-op Dairy, had an annual [1985] turnover of $812 million.

A sign of the importance of the agribusiness system to the New Zealand Economy is the predominance of statutory authorities especially in the marketing sector. Examples include the Dairy Board, the Kiwifruit Marketing Authority, the NZ Meat Producers Board and the NZ Apple and Pear Board. The powers of these bodies range from advisory services and the setting of quality and hygiene standards, to the compulsory acquisition (and thus marketing) of an entire seasonal crop. All have, at various times, wielded immense power over the strategic directions of the industries with which they are involved. Governments themselves have not been immune from this influence.

Support is also given to the marketing of agricultural products by various Government departments such as the Departments of Trade and Industry and Foreign Affairs. Due to the importance of foreign exchange in the sale of agricultural products, politicians themselves become involved. Indeed, some products are effectively negotiated on a Government to Government basis. An example was the meat for oil trade with Iran.

The Control Function

The control of agribusinesses in New Zealand can be regarded as operating at two distinct levels, operational and strategic. At the operational level, the aim of any agrifirm is to maximise profits by creating a low cost high quality product which has great market appeal. This, as in any business, requires that the management understands the range of business tactics which may be employed to give the firm a competitive advantage. For the agribusiness industry as a whole, decisions made at an operational level are usually short term in nature. For example, the survival of the firm is of primary importance to its management. Even though it maintains an interest in the industry as a whole, it does not regard itself as being the industry's keeper. Nor does it see itself as having to be unnecessarily philanthropic towards other firms. Under these circumstances long run strategic decisions regarding the future direction of the industry are left to higher management levels.

The strategic control of agribusiness in New Zealand can be divided into (a) strategic competition within the industry, and (b) strategies relating to the future of the industry as a whole.

As far as the input sector is concerned, strategies generally relate to the capture of market share. While some comment relating to monopsonistic (e.g. fertiliser suppliers') or oligopsonistic (e.g. agrichemical suppliers') behaviour may be appropriate, these are not generally seen as major problem areas within the industry. The majority of strategic decisions relating to the input sector are made by the directors and/or owners of the agrifirms. While the number of totally independent businesses has declined due to recent mergers and takeovers, the number of cross directorships and holdings has grown. To date these are not thought to affect adversely the efficient operation of the sector as a whole, or to impose undue price increases upon the farm sector.

The attitude of the participants in this sector towards the entire input industry is difficult to discern. Without a healthy agricultural industry the input sector not only fails to grow, but also, in some cases such as

fertiliser retrenches and contracts. When this occurs, some participants permanently leave the industry while others try to increase their market share and profitability by engaging in increased advertising and promotion.

Many of today's participants have diversified their activities to such an extent that they have an uneasy "fit" within the agricultural industry, a normal development in the business cycle. Some firms, especially in the rural finance sector are reluctant to continue to depend on agricultural industry which has caused them severe problems.

In terms of industry-wide strategies, it has largely been left to government to determine direction. Policy instruments including import controls, tariffs and the value of the New Zealand dollar have impacted strongly on the direction of the industry and the competitive strategies determined by individual firms.

Strategic competition within the farm sector is virtually non-existent. For example, in the case of a sheepfarmer, it is restricted to the day on which stock can be slaughtered, and in the case of a cropping farmer, to competition for the supply of various cultivars and commodity market contracts. In any case, there are so many farm enterprises that no single operator can dominate the market.

However, in some cases strategic control is possible, especially where valuable genetic material is involved. Examples of this are the egg production industry (where production quotas were in place) and in the thoroughbred bloodstock industry (which does not allow artificial insemination of mares).

Strategies which relate to the industry as a whole usually form part of the domain controlled by Government. In this environment, the role of the farm sector is to provide an effective lobbying system to ensure that it receives an appropriate share of the nation's resources. The lobbying groups which make up this system, including those which have some statutory basis for existence, are usually farmer controlled. They aim to protect the status of the industry and guide its future direction. However, as often happens in such circumstances, these representatives become protectors of the status quo, and when this attitude is reinforced by Government response, strategic changes in the direction of the various industry elements become unpopular and difficult to implement. Among the most difficult questions facing lobbyists today is the role of the family farm. Is the one-man small scale unit an effective, efficient and responsive tool with which to face the uncertainties of agricultural production in the 21st century?

Strategic competition is possible at the operational level for many farm products, especially where sales are to the local market such as vegetables, or supermarket meat supply contracts. But for the commodity type products, with a history of controlled marketing (usually by a Government approved single seller, or a restricted number of sellers) strategic competition is not possible. In many cases slowness in responding to changing market forces the result.

Sometimes the marketing of a product is effectively controlled through ownership concentration which has evolved through normal business processes rather than through regulation. Examples include: the broiler chicken industry in which a few firms control the supply of the genetic material which is then tied to a broiler supply contract; bread marketing, the majority of which is controlled by two firms; and beer marketing with two major firms. There is competition between these firms but with recent merger proposals there is a suspicion that not enough competition will exist to continue relatively low priced food items. In other cases monopolies have been created by regulation. The powers of the New Zealand Dairy Board to determine the product mix of the dairy industry and to allocate that mix between competing dairy cooperatives, are extremely wide ranging. These powers have been effective in an industry which is constantly battling surplus production overseas and the regular imposition of trade barriers in its markets.

The Commerce Commission is empowered to review monopolistic practices. It has suggested" ... 30 percent (to be) a market share ensuring effective competition...", and in the recent Wrightson NMA-Dalgety hearing before the Commerce Commission (1986) the following information (Table 7) was disclosed illustrating market concentration in livestock and fibre auctions. The Commission directed that regional competition was critical for the public good.

Government has become increasingly involved in overseas marketing. While at first glance this situation may offend free-marketers, it must be remembered that New Zealand is a small economy reliant to a large extent on export earnings from agriculture. Its markets are often countries which have high levels of internal agricultural protection, and where the regulation of agricultural production and marketing has long been recognised as a political and economic tool. If New Zealand is to be successful in overcoming these barriers it must seek reform of protectionist policies of major agricultural producer countries. Such actions pose considerable challenges both to industry and to politicians.

Table 7: **Percentage Market Shares - Auction Sales**

	Auctioning Wool		Auctioning Sheep		Auctioning Cattle	
	Wrightson/ Dalgety	Other	Wrightson/ Dalgety	Other	Wrightson/ Dalgety	Other
North Aklnd			68	31	73	27
Auckland	72	28	79	21	79	21
Waikato			81	19	65	35
King Country			80	20	82	18
Taranaki			50	50	50	50
Hawkes Bay	72	28	63	37	60	40
Wanganui	81	19	95	5	88	12
Manawatu/ Wellington	78	22	99	1	96	4
Wairarapa			100	-	100	-
Marlborough/ Nelson			66	34	71	29
Canterbury	71	29	70	30	75	25
Sth Canty	73	27	67.5	32.5	71	29
Otago	68.5	31.5	66	34	63	37
Southland	60.5	39.5	64	36	73	27
National	71	29	75	75	72	28

Concluding Observations

Agrifirms are major agents for promoting economic and social change in rural New Zealand. They have changed the nature, economy and scope of agricultural production and have profoundly affected the population's access to food and fibre products. The last two decades have seen a strong trend for agriculture to be part of a wider set of commercial interests ranging from agricultural inputs (machinery, finance, seeds, fertilizers, feed/stuffs) to the processing, distribution and retailing of fibre and food products.

Both vertical and horizontal forms of agribusiness have moved towards unitary corporate control, from seedling to supermarket. In Britain, for example, Spillers has interests in seeds, agricultural machinery, pesticides, fertilizers, feedstuffs, agricultural production, food processing and food wholesaling/retailing. In New Zealand, corporations concentrating on food processing and distribution have so dominated the food production system that a large number of farmers have become the modern day equivalent of factory outworkers. Watties and Goodman Fielder provide excellent examples of this domination of food production.

New Zealand consumers see the apparent benefits of these trends in an increased range of processed foods especially in convenience and long-storage foods. Agribusiness firms claim that they can continue to deliver competitive prices and improve the lot of the consumer. But although New Zealand consumers and the shareholders of large agrifirms have benefited from their efforts, the farm production sector has not always done so.

Farmers have claimed that product proliferation in the agrichemical industry has led to costly duplication, confusion and inappropriate applications. The monopoly position of marketing boards is believed to contribute to overpricing of marketing services. In the highly integrated industries of poultry and processed vegetables, farmers contractual obligations reduce their bargaining strength and preclude adequate returns on investment. In effect, many farmers find that they have become drawn into a web with a highly concentrated agribusiness sector controlling, in some cases, both the supply of farm inputs and the disposal of farm output.

A more jaundiced view of agribusiness has been put by Sargent who lists a number of its disadvantages. "Firstly, its re-investment in agriculture is minimal. Much of the profits go to the urban based shareholders, rather than to farmers or rural communities. Secondly, it squeezes farmers from both ends, selling expensive inputs and paying as

little as possible for rural produce. This contributes to the cost-price squeeze, concentrating land ownership and consequently wealth. Thirdly, because of intense competition between global corporations with a constant need to expand markets, it encourages unnecessary product proliferation in agricultural inputs and food products. Fourthly, the heavy foreign ownership introduces questions of fidelity. Fifthly, by fostering corporate farming rather than family farming, agribusiness helps promote short-term farming practices which are linked to environmental problems such as soil exhaustion and erosion."

Crystal-ball gazing is not a very profitable occupation at the best of times, and with the present economic and political uncertainties facing agribusiness in New Zealand, it is likely to be even less profitable. However, some future trends may include the following:

The Input Sector:

fewer, larger supply firms
increasing use of cooperatives as supply firms
fewer firms relying solely on agriculture for business
fewer professional practices devoted to rural interests
less financial dispensation for rural producers
increased technical quality of inputs

The Farming Sector:

larger farming units with some vertical integration
increased absentee ownership of on-farm resources
increased productivity per labour unit
increasing substitution of capital for labour
increasing on-farm diversification
decreasing input/output ratio

The Marketing Sector:

limited competition between firms
decreasing Government involvement/assistance
increased local processing content - value added operations
increasing range of product options for farmers
increased manufacture and market concentration

These changes do not necessarily imply adverse consequences for farmers and consumers. Government regulation may limit the actions of some firms to prevent the kinds of problems outlined by Sargent. It is critical that policy makers consider the economic and social consequences of such changes, and be accountable for their positions and determinations to the communities of New Zealand.

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Section V

New Zealand's Markets and Marketing

Chapter 14

The Structure of Markets

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It has become a cliche that the key to marketing success. is to have a sound understanding of the needs and requirements of consumers, and to ensure that the offered products have features that will meet those needs. Many enterprises in the New Zealand food and fibre industrial areas have struggled to achieve this aim, and some have still not done so. However, this formula is naive because it does not go far enough.

The meeting of customer requirements is necessary for success but will not guarantee it. For example, many fine products that household consumers would enjoy are not offered because they cannot compete successfully for space on the shelves of supermarkets. Similarly, the production and offering of an industrial food material that meets a manufacturer's specification at an affordable price may not sell because the manufacturer is loyal to other suppliers and has no incentive to switch vendors.

Even when customer requirements are being met and sales are being made, the commercial success of the enterprise is not assured unless the marketing outlets it uses are organised and managed so as to capture a satisfactory share of the value added. Competitively strong distributors, retailers, or manufacturers can easily capture most of the available profit margin thereby sometimes leaving producers with returns below the levels they need for survival.

If they are to provide sustaining returns to producers, and are to make a worthwhile long-term contribution to the national economy, New

Zealand food and fibre enterprises must be managed to achieve and maintain a competitive advantage in their markets.

Competitive market structures and the choice of strategies will determine success in: consumer markets for fresh food products; consumer markets for processed (extended life) food products; and industrial markets for food products and fibre products.

First, let us consider the competitive structure for food products that have a limited shelf life such as fresh fruit and vegetables, fresh or chilled meat, and eggs (Figure 1). Competitive structure is determined strongly by the kind of retail store that is involved. The two main types of retail stores are:

1. Large supermarket and department store chains like Foodtown and Woolworths in New Zealand, Coles in Australia, Safeway and Ralphs in California, Sainsburys and Marks and Spencer in the United Kingdom.

2. Smaller specialist fruit and vegetable retailers and butchers shops which retain sizable niche markets in most regions but are steadily losing out to supermarkets.

When supermarkets are present in fresh food marketing they dominate the competitive structure. Within each local market area, there is typically a relatively small number of large supermarket retailers.

The corporations that operate supermarkets are large by comparison with the producer groups that supply them. For this reason alone, they are able to exercise substantial bargaining power. Moreover, supermarkets regard their produce and fresh meat departments as 'flagships' for the entire store. There is a strong tendency for consumers to judge stores by the range and quality of products in these departments. Consequently, supermarket buying managers insist on high and consistent levels of product quality, and that deliveries be made on time in full. Any vendors who fail to meet these requirements are usually abandoned. Supermarket buyers bargain strongly on price, but they recognise that the income levels of established suppliers must be maintained at levels that will continue to support the quality of their operations. They have a substantial preference for price stability. Stability of prices and continuity of supply is often more important than hard bargaining on each shipment.

Supermarkets arrange supply in a variety of ways. In some instances they have ensured reliability of supply by taking an equity and

managerial interest in production operations. For instance, a Californian supermarket chain has vegetable production interests in Mexico. In other instances, they deal directly with producer groups. In yet other cases, and particularly when the value of products supplied is relatively small or when producers are distant from the retail store buyers, supermarket buyers will prefer to deal with local distributors. These companies take delivery of products from several sources, consolidate the supplies into the required type and quality assortments, and supply the supermarkets to meet their day to day requirements.

Different distributors have a variety of functions: merchant wholesaling, agency selling, arrangement of shipping, and the possible arrangement of sales and purchases through auctions. The auctioning of fresh fruit and vegetables is still significant in New Zealand, the United Kingdom and some other countries. It has virtually disappeared in the United States. Wherever possible, supermarket buyers prefer to purchase by private treaty to avoid the price variation inherent in auction systems. For this reason, open auctions are handling a declining proportion of the total trade. Growers in New Zealand have tended to support the continuation of the auction system because they believe that it dilutes the price-determining power of large buyers such as supermarkets. While this belief has some substance, the same growers often overlook the countervailing approach of organising into large united selling groups that can bargain strongly in private sales negotiations.

The majority of New Zealand suppliers to offshore supermarkets use the services of intermediary agents or wholesale distributors for two reasons. Suppliers need local representation on a day-to-day basis, but often their operations are too small to support financing a branch office. Therefore, agents operating on commissions or distributors on margins can provide the needed representation in an affordable manner. The other reason is that supermarket buyers are disinclined to accept the risk and costs of dealing with small and distant vendors. Agents and distributors are most effective when handling volume shipments of products already established in the supermarket. By contrast, most of them are not highly motivated or expert in the process of new product market evaluation. The use of overseas distributors for this purpose by New Zealand suppliers can be a serious marketing weakness.

It is clear that producer groups should move towards more direct trading relationships with supermarkets, with reduced reliance on full-service agents or distributors. This strategy has the advantage of providing more control over marketing, increasing differentiation from competing suppliers, and capturing a greater market return for growers

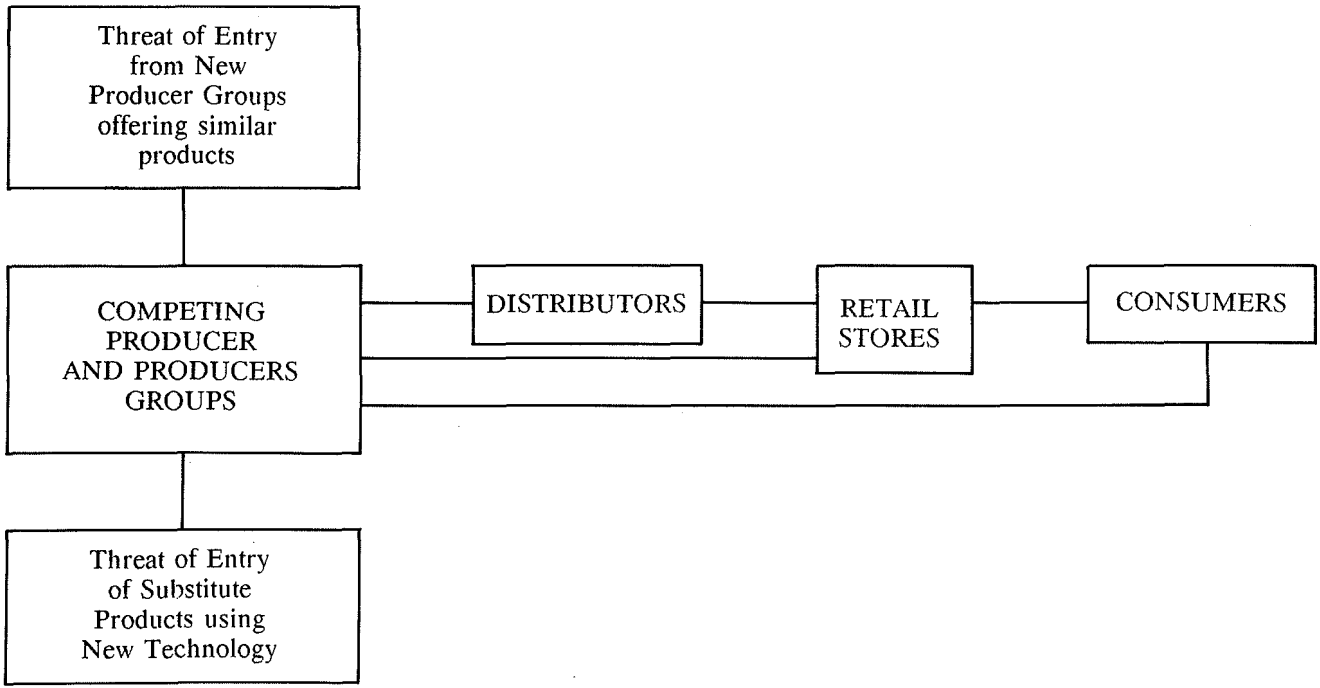

Figure 1: Consumer Markets for Fresh Food Products

through reducing intermediary costs. The New Zealand Apple and Pear Marketing Board has successfully followed this approach in Europe, differentiating New Zealand apples in terms of quality and supply scheduling. The New Zealand kiwifruit industry has also successfully differentiated on a similar basis, although the use of multiple exporters has resulted in greater reliance on agent distributors.

In the case of the growing trade in exported chilled lamb cuts, direct supply to supermarkets or other market outlets, success depends upon achieving maximum shelf life and product presentation. Since chilled cuts compete with fresh products, New Zealand suppliers must provide strong merchandising and promotional support to their overseas marketing efforts.

Specialist retailers tend to have even higher product quality requirements than supermarkets, especially in Japan and West Germany. Most have a strong preference for purchasing product from stocks held by merchant distributors, and in some countries, including New Zealand, these retailers are strong supporters of the auction system. Except in the case of local New Zealand direct supply arrangements, New Zealand producer groups as yet have not developed alternatives to supplying through traditional distributors.

The third channel that appears in Figure 1 indicates direct supply from producers to consumers. This channel is restricted to fresh fruit and vegetables on the domestic market, and includes roadside stalls, pick-your-own operations and mail-order delivery. Although this method provides significant convenience and recreational benefits to consumers the volume of trade conducted in this way is small.

It is easy for new producers and producer groups to enter fresh food markets which means there is always a threat of entry by new competitors. Examples of this form of competitive entry that have affected New Zealand include Chilean apple producers, kiwifruit producers in both Northern and Southern Hemisphere regions, and the early entry of Australian producers offering chilled lamb cuts to the United States and Europe. On the domestic market, local producers of citrus are now increasingly exposed to strong competition from imported oranges. Australian growers also might be able to supply certain types of fresh vegetables to New Zealand markets at competitive prices.

The entire structure is also subject to competitive entries from new types of products using new technology. For example, the introduction of controlled atmosphere storage in Europe has made it possible for French Golden Delicious apple producers to carry forward their supplies

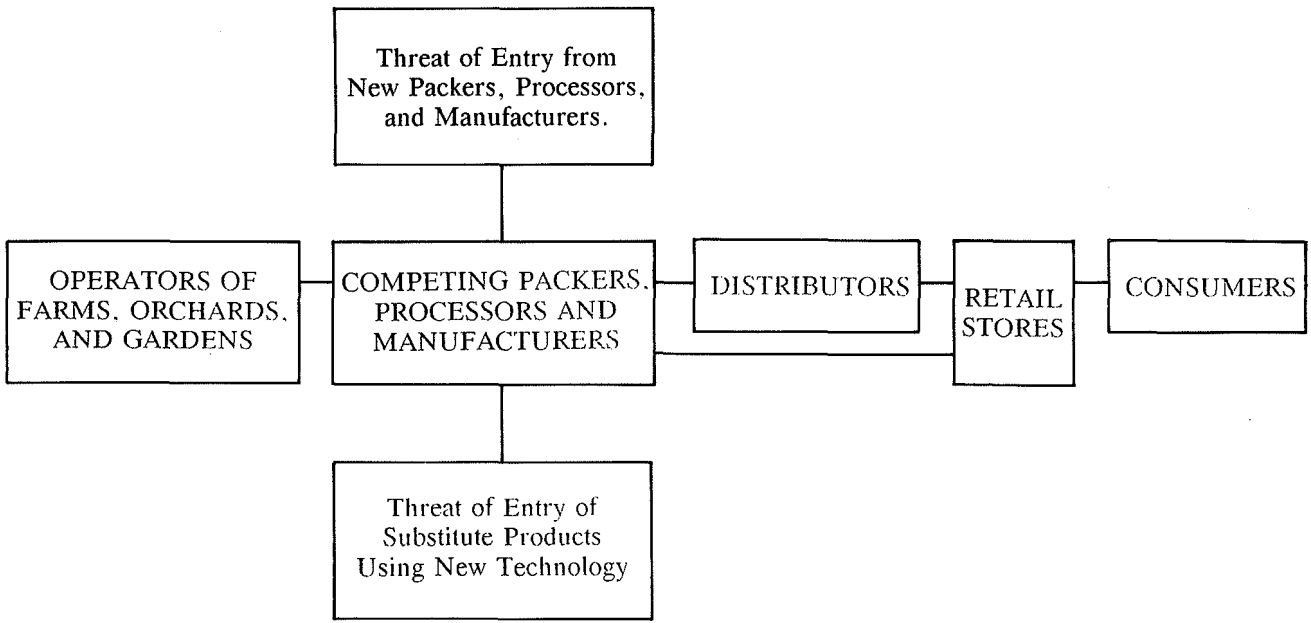

Figure 2: Consumer Market for Extended-Life Food Products

to compete in the seasonal niche market previously occupied solely by Southern Hemisphere supplies, especially from New Zealand.

Extended-life products are those that are processed and packaged so that they have a shelf life of months or even years: packs of frozen foods, canned products, jams and preserves, honey, and consumer packs of dairy products such as butter, ice-cream, yoghurt, and milk powders. Figure 2 summarises the competitive structure of these markets. By comparison with the structure for fresh food products, the competitive strength of retailers and their suppliers are more in balance. Large retail stores (supermarkets and department stores) also dominate this market. However, smaller specialty stores such as delicatessens, and convenience stores such as corner dairies and small grocery stores, continue to hold a substantial proportion of the trade in most countries.

The packers, processors, and manufacturers that deal with supermarkets and department stores also tend to be large corporate organisations. Typically, the large retail stores are offered more varieties of branded food products than they can stock despite the fact that many would be popular with consumers and sell well. This situation results in fierce competition between processors and manufacturers for shelf space on supermarket shelves. Essentially, supermarkets now rent space on their shelves to suppliers whose products can generate the best financial return per unit of shelf space over a given period. Except in some of the specialty departments that handle items with low turnover, manufacturers will gain access to supermarket distribution only if they can offer a sizable line of products that establish a sufficient area of shelf facing. Small product lines simply get 'lost', and supermarket managers are unlikely to be interested in them.

Moreover, manufacturers are expected to promote directly to consumers, as well as supporting supermarkets in co-operative advertising and sales promotions. This situation makes it extremely difficult for small new companies to gain access to the retail market, even with products that are attractive to consumers. While this situation is less intense in New Zealand, competition is strengthening rapidly. In other markets, particularly in the United States and Western Europe, manufacturers must develop well-planned marketing programmes consisting of a product line with appropriate and attractive packaging, competitive pricing, and backed by consumer advertising and sales promotions.

Even when entry to supermarkets has been achieved, successful food marketers of packaged food must fend off other suppliers who compete

for the same supermarket shelves. There is always constant competition from new, and possibly superior, product formulations or packaging.

Most large food processors and manufacturers distribute directly to retail stores. However, significant volumes of business are undertaken by specialist wholesaling distributors, each of which handles an assortment of products for several smaller manufacturers.

In most instances, specialist retailers of packaged food products are supplied by distributors. Competition for access to retailers is less intense here in supermarkets. On the other hand, demand is also less, and specific product features are usually required.

The major competitive battles in these markets are waged between manufacturers who seek competitive advantage in dealing with powerful retailers. The operators of farms, orchards, and gardens who supply raw material for processing and manufacturing must recognise that they have a vested interest in supplying high quality materials that enhance their manufacturer's opportunity for competitive advantage. Producers must supply products that conform to the specifications of the processors and manufacturers. There is simply no place in this marketing system for farmers or growers who believe that the market should accept the standard or grade of product that they choose to produce. The successful development of the New Zealand Dairy Board as a major and successful multinational food marketer is due in large measure to strict adherence to these principles.

In industrial markets the raw material from farms, orchards, and gardens is sometimes processed to an intermediate stage and then sold to industrial manufacturers who in turn use these products in their own operations to develop products for their own markets. The essential difference between consumer and industrial markets is that the identity of the original product is lost. Examples are block-frozen berry fruit mixed with other fruit in the manufacture of jams; milk powders used as ingredients in baking; caseinates used as sophisticated ingredients for foods, in drinks, and for the formulation of certain plastics; bull beef ground and used in manufacture of frankfurters; and crossbred wool used to manufacture carpets.

In this type of market structure (Figure 3) the industrial buyers tend to be large sophisticated enterprises. There is a tendency for close and loyal associations to exist between marketers and the industrial manufacturers that buy from them. The reason for this is that the marketing companies must understand in considerable detail the manufacturing operations of their buyers and the specifications of

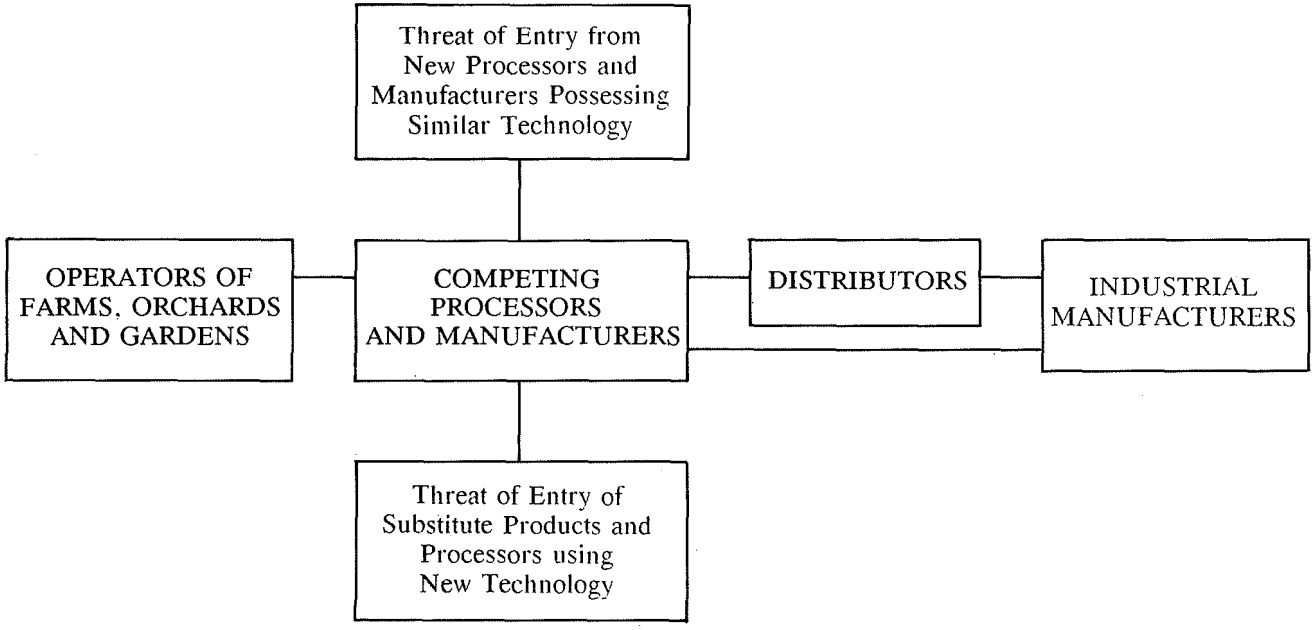

Figure 3: Industrial Markets for Food and Fibre

products they require. They also often assist with technical service to ensure that products are used efficiently. When this kind of business association develops it is sometimes quite difficult and risky for the buyer to change vendors. Similarly, individual buyers often account for a substantial proportion of the sales of a manufacturer, who is consequently quite reliant on the customer. These influences result in relatively stable buyer-seller relationships that require considerable investment and expertise to establish.

In industrial markets, processors and manufacturers who aim to be competitively strong require substantial financial strength, management skills, and technical support services. The United States subsidiaries of the New Zealand Dairy Board were established with this objective, and successful business development has resulted. In other instances, New Zealand suppliers to industrial markets are much smaller than their buyers and suffer as a consequence of weaker bargaining power and lack of financial resources. An example is provided by the grower cooperative and exporting companies in the horticulture industry that supply bulk frozen fruit products to large manufacturers of yoghurt flavour bases and jams in the United States and Western Europe. The New Zealand suppliers are too small (at least in these enterprises) to maintain a presence in the market, and therefore work through brokers and agents. The suppliers have little or no direct contact with industrial buyers and offer minimal technical support to them. Their marketing role is reduced to price-accepting order-taking and therefore,a substantial proportion of the value generated is captured by intermediaries.

The history of wool marketing provides further salutary evidence. One of the fundamental weaknesses of the New Zealand wool industry in the 1960s, as it faced new competition from synthetic fibres, was its inability to provide equivalent technical support to manufacturers of carpets and fabrics. The activities of the International Wool Secretariat were subsequently directed towards this problem, but serious competitive weaknesses still exist in the lack of management control over pricing and distribution.

As is the case in consumer market structures, farmers and growers must recognise that they have much to gain from supplying raw material products to specifications that meet the requirements of the ultimate industrial manufacturer. Again, there is no place in a competitively successful enterprise for raw material suppliers who do not or will not supply a product to specifications. Similarly, manufacturers must try to be responsive to the product attributes required by their industrial buyers. Accurate and timely flows of technical information are critical to the successful management of these supply linkages.

This brief review of the structure and management of marketing channels for New Zealand food and fibre has identified several general conclusions:

1. Marketing channels must be managed to maintain competitive advantage. This requires products with features preferred by end users; access to markets; and bargaining strength.

2. Markets for fresh food products are dominated by supermarkets which place exacting requirements on their suppliers. Competition for access to supermarkets is intense. High levels of marketing skills are mandatory. Small supplier organisations are at a disadvantage and development of larger marketing enterprises should be encouraged.

3. Markets for extended-life food products feature even more fierce competition between manufacturers for supermarket space.

4. Industrial markets for food and fibre products have sophisticated buyers who expect their suppliers to be financially strong and able to provide technical marketing support. Small and fragmented marketing operations are inherently weak.

5. Producers must recognise that their chief marketing role is to provide raw materials to required specifications within costs that allow packers, distributors, processors, and manufacturers to compete strongly in the markets that they face.

Given the criteria proposed in this chapter, the marketing performance of the New Zealand food and fibre industry is highly variable. Those enterprises that are strong and successful indicate clearly the factors that lead to competitive strength. The weaker operations are deficient in ways that public policy and internal management can address directly. The real question for policy makers is how much, if at all, weak operations should be helped - for how long and with what kind of policies.

Chapter 15

Advertising and Promotion

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Advertising and promoting a food or fibre item is a complex business. The market position of the firm doing the advertising is one major factor; others are the firms' business goals, the timing of its hoped-for sales, the experience and training of its management, the availability of communication media, and the relative costs. Increasingly, markets are not ruled by the old 'buyer beware' ethic, but by a host of government regulations or self-imposed business guidelines.

A consumer usually thinks of advertising and promotion in terms of one business firm competing with another, each trying to increase its share of the market. However, advertising and promotion can also be part of an overall industry marketing strategy where the aim is to increase the size of the total market. For example, individual woollen carpet manufacturers could try to expand the size of the total carpet market in an attempt to reduce the market share of synthetic carpets.

In the last decade a decline in the size of some traditional markets for New Zealand food and fibre products has led to some industries giving more attention to advertising and promotion programmes. A number of statutory producer boards involved with fish, cheese, milk, butter, eggs, pig-meat and wool, have become increasingly active in the domestic market.

Recent advertising campaigns by the boards which appear to have been successful include: the Dairy Board's 'Bigger Block of Cheese' campaign, and its defence against margarine to maintain butter's market

share; the Apple and Pear Board's 'Fresh Up' and 'Just Juice' campaigns; the Pork Industry Board's 'Trim Pork' brand and its campaigns for ham and bacon; and the Wool Board's promotion of woollen carpets to counter the increasing competition from synthetics.

The main motivation behind any advertising or promotion campaign is to make profit by improving the public image of what is being marketed, and by achieving continuing sales. Influencing demand is difficult. Many firms spend vast sums of money on expensive brochures about their products only to find from a little market research that the actual buyer paid no attention to the pamphlets but, instead, relied on some other factor completely overlooked by the advertiser - such as simply seeing what the neighbour bought and whether or not it worked.

Advertising is only one element of the marketing mix and needs to be evaluated in conjunction with the other elements such as the quality of the product, packaging, pricing, and distribution. Media advertising is also only one element of a promotion strategy which can include public relations, publicity, and personal selling. At the industry level, public relations and publicity are particularly useful in creating a favourable environment in which to market food and fibre products. These efforts can be directed at target audiences such as specific groups of consumers, educational institutions, the media, policy makers, government departments, and other firms involved in marketing the industry's products.

Because society has become aware that some people will try to sell anything to anyone, most governments impose some regulations. In New Zealand the best known are the laws governing the production of food. For example, slaughter animals have to be healthy and animal carcasses are required to be inspected by someone not benefitting directly from their sale. Quality standards apply in many industries. Wool has long been sorted and sold according to internationally accepted standards and the same applies to fruit and vegetables and most other products designated for export. This means that they must also be advertised or promoted according to strict specifications about the contents and the processing procedures.

The promotion tools can play different but complementary roles. Media advertising can be used to help build a long-term product image as well as to trigger short-term sales. In contrast, sales promotion techniques tend to be used only in the short term to help build stronger and more rapid sales. Personal selling is particularly important in some cases and public relations is best used to complement longer-term activities with short-term product promotions.

Advertising is not the same as promotion. Advertising is usually based on providing specific information about a product to a particular audience over a fairly long period of time. Promotion tends to be shorter-lived, dealing with events such as a week's sale of canning fruits. Both advertising and promotion rely upon providing information and presenting it to capture the public's interest.

The question of who pays and who benefits from advertising and promotion is a good one. When there are relatively few firms (suppliers, processors, and large retailing chains) with a range of products, it is likely that the cost of advertising will be less than the increase in sales they cause. On the other hand, when there are large numbers of producers, each with about the same type of product (e.g. wheat), there is little hope of capturing profits by individual advertising. That is why most farmers do not advertise.

However, this leads to the question of who should pay for advertising at an industry level. In order to overcome the 'free rider' problem, most of such advertising is done under regulations which compel everyone producing that item to contribute in some equitable manner.

Marketing activity at an industry level has usually involved heavy media advertising funded by producer levies. For example, in the last few years, New Zealand pig-meat producers have contributed between $500,000 and $1 million towards industry advertising expenses. Two questions arise:

(1) its economic effectiveness, and
(2) the extent to which it complements the marketing activities of individual firms within the industry.

Since advertising is only one of many factors which can affect sales and market share, conclusions about success and failure need to be interpreted with caution. For instance, during the 'Bigger Block of Cheese' campaign, the price of cheese, as compared with that of most of its protein substitutes, declined. So it is difficult to say how much of the increase in consumption was due to the reduced price and how much it was due to the campaign itself.

A clear distinction needs to be made between promotion activity which is directed at final consumers (a pull strategy) and one directed at the trade or distribution system (a push strategy). While media advertising is the visible part of any marketing activity it is quite often only a small part of the organisations' total marketing effort. For instance, a recent survey of marketing expenses for supermarket items in the United States found that, on average, consumer-directed media advertising made up

only 15 percent of the promotion expenses. Two-thirds of the promotion activity was directed to the trade and only one third to consumers. Personal selling and sales promotion made up the largest proportion of the total marketing expenses. One reason for this seeming imbalance is the changing role of wholesalers and retailers in industrial countries. Competition for shelf space in supermarkets is intense. Therefore a manufacturer first has to sell the product to the retailer in order to sell it to the consumer. There are many different ways to promote through a distribution channel, including providing promotional assistance, personnel training, sales and merchandising assistance, and special deals and allowances.

In advertising and promotion it is important to know the specific audience to which an effort is directed - for example, the ages, sex, occupations, educational backgrounds and income brackets of the people at whom the campaign is aimed. What are the spending habits of the particular group? Is the effort directed more towards people who buy by impulse, or to those who make a study of price and quality before they buy? Is the shopper a child, a teenager, or a woman whose children have already left home? Many market researchers have found that certain food items are subject to considerable peer pressure: 'I always give my children.....', and they pursue that thought with the implied message that only good mothers and/or fathers get product X for their offspring.

Increased use is being made of joint advertising, the makers of one product joining with another in sharing costs. For example a firm which makes salad dressing may join forces with a firm offering garden-fresh vegetables, or a firm advertising only one fruit type may join in a general promotion for several types of fruit which may be seasonally available.

Recent emphasis on 'one stop shopping' has led many retail establishments to make a practice of advertising or promoting both food and non-food products in the same store: eggs and picnic baskets, gourmet foods with paper napkins. A fairly recent trend is towards providing more information about what is used in the actual preparation of the foodstuffs. More consumers want to know what actually is inside the can or package before they buy it.

Promotion at an industry level is usually referred to as generic promotion while the activities of individual firms are referred to as brand promotion. Generic promotion is directed at stimulating demand for the entire product category and focuses on the attributes common to all the brands in that class. By contrast, branding involves identifying a

particular product. Promotion of a brand item concentrates on the qualities which make it different from other brands in the same class.

There is a continuing debate about which type of advertising, generic or brand, generates more sales. Does it pay more to advertise 'Butter' or 'Brand X' butter? Some commodity groups have stressed that it is necessary to keep advertising continuously in order to keep the product in the public eye: kiwifruit, milk, tobacco, and fruit juice for instance. Other commodity groups have decided that this is not true for them and that they would rather spend their advertising or promotion budgets on more timely specific tactics.

In practice, brand promotion by firms and product promotion by industry organisations are often difficult to separate. In some cases brand promotion may also stimulate industry demand. If there is a campaign for major brands of say chicken or fruit juice, the total market might expand with each firm obtaining a larger share.

Most promotional campaigns by industry organisations are not purely generic. Most use branding techniques to help identify a particular class of product. Examples include the 'Trim Pork' and 'Q-mark' campaigns for pig-meats, the Dairy Board's 'Bigger Block of Cheese' campaign, and the Apple and Pear Board's 'Fresh-Up' and 'Just Juice' were brands of fruit juice marketed by the Apple and Pear Board.

What is known as 'umbrella branding' is sometimes used when food and fibre products are exported. This means using the country or region of origin as the brand name, e.g. New Zealand lamb, apples and kiwifruit. The same idea is being used by some manufacturers and retailers to market a variety of food products under a common brand name. Recently the term generic has also been used to refer to items which do not have any clear brand identification, are not supported by promotion, and usually come in large sized portions. Examples are some common medicines such as aspirin, and paper products like paper towels.

In the past two decades many studies about the effectiveness of brand advertising have been published. They show that, while there are considerable variations, advertising, in general, tends to be less effective than factors such as changes in price, retail promotion and product quality. While many food advertisers would dispute this conclusion because of differences in types of products advertised, it was confirmed in a recent study of brand competition in three New Zealand markets (Brodie, 1984). That work found that a 10 percent increase in

advertising was likely to have less effect than a one percent decrease in price.

Other studies about the effectiveness of advertising at the industry level lead to the same conclusion. In a study of the UK milk market it was estimated that a 100 percent increase in advertising would be expected to increase sales by only one percent in the short-term and three percent in the long term (Strak and Gill, 1983).

Studies about the effectiveness of advertising between competitive brands and between industries still leave many unanswered questions. Little is known about the effectiveness of various forms of media advertising, of how it compares in different types of markets with other forms of promotion; what is the effect of advertising among the firms within the industry; and what repercussions is advertising likely to have throughout the entire product marketing system?

A first step in assessing promotional opportunities for either a brand or an industry is to identify where the potential increases in sales and/or market share might occur. This involves identifying substitute brands or products, not an easy process in some cases because many food and fibre products have multiple uses and the use of the substitutes may vary by such things as meal situations. For example, cheese is consumed by households between meal times, at snack times, and in cut lunches. Food substitutes for these situations also can vary considerably.

A broad perspective which takes into account the entire marketing system is necessary when planning for increased market opportunity. Any food or fibre market system can be described as consisting of three subsystems (Figure 1). The core marketing system is made up of suppliers, producers, processors, distributors, retailers and consumers. Surrounding this core are the immediate forces (the business and financial community, media, government, pressure groups, general public and trade associations), and outside that again are the external forces (demographic, economic, political, technological and cultural influences). The distinction between the immediate and external environments is that factors in the immediate may be influenced by participants in the core marketing portion, while forces in the external environment usually cannot. This means that the forces in the immediate environment and operators in the central core are potential target audiences for the marketing effort.

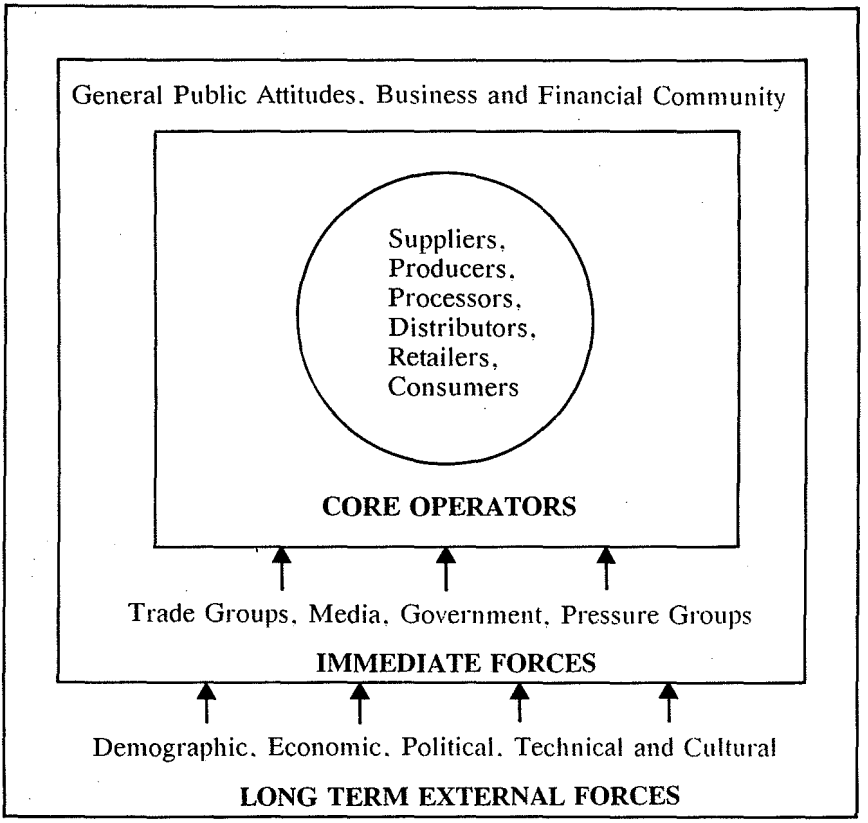

Figure 1: The Food and Fibre Marketing System

Certain factors are pertinent to each of the three systems. For instance, in the external environment, seasonal, climatic and economic factors are important in the short term. Over longer periods, demographic shifts and cultural, political and technological influences may arise. In the immediate environment, the role Government attempts to play is often the most important factor. Government intervention may restrict competition and upset the power balance among producers, processors, retailers and consumers. In the core portion, aspects which need to be accounted for explicitly include:

1. Different market trends (consumer, industrial and institutional) in those markets where the industry's product is competing.

2. Marketing activities of industries and firms with substitutes which compete in these markets.

3. Different elements of competitive marketing activity, including advertising, promotion and the rest of the marketing mix of consumer and trade-directed promotional strategies.

4. The consumer's previous experience and attitudes towards the industry's products and its substitutes.

5. Factors which determine the bargaining power and the terms of sale between any operators in the central core.The bargaining power between producers and processors may be determined by the: kind of products produced, the extent of product differentiation, the relative costs of producers and processors, the presence of substitutes, the volume and continuity of supply to processors from producers, the product quality, the use of credit, and the relative ability of producers to move forward in processing and/or marketing.

6. Supply response from producers may increase if promotion raises demand. The response may cause an oversupply which might swamp a market thereby decreasing producer and processor returns through lower prices.

7. The ability of management to control the entire process. This is more difficult at an industry level than at the brand level because coordination is required through the entire marketing system. In some cases the type of intervention required may be politically unacceptable.

Market Power

Farmers have often been portrayed as the key figures in the food system. What they brought to market dictated what was sold, therefore they were in control. If that was ever true, it was long ago. Processors of raw food products soon moved into a major 'control' position. For example, when the ships began to move frozen carcasses from New Zealand to Britain in the late 1880's, it was the works people who told the farmers when to have their animals in, and it was the works people who coordinated the slaughter/freezing functions with the transport to available ships.

By the early 1900's, New Zealand lamb had attained a highly respected position world-wide. However, as the market has matured, consumers have become more sophisticated and more aware of nutrition and food alternatives.

In the last 25 years market power has moved from the processors to the retailers who cannot afford to carry items which are not sold quickly. If their promotional efforts are not successful they cannot continue with a slow-moving or low-margin item. There is simply too much competition within the range of foods available now for the retailer to waste time on an unprofitable item. Shelf-space is at such a premium and inventory turnover is such a necessity that the retail food store manager must keep fresh, high quality food items before the store's customers at all times otherwise competition will draw them away.

Critical Factors for Success

The above discussion has isolated a large number of factors affecting the demand for food and fibre products which need to be accounted for especially when examining the opportunity for industry level promotion. In summary, the following conditions need to hold if a promotion/advertising effort is to succeed:

1. There exists considerable opportunity to take away market share from substitute products.

2. There are favourable trends in the external environment affecting the marketing of the product.

3. There is an ability to influence factors in the immediate environment and in the core portion of the system.

4. The industry has sufficient marketing control to coordinate production and marketing activities.

5. The industry has the resources to counter competition and sustain its competitive advantage.

6. The promotion activity is cost-effective.

Any research programme which aims to identify opportunities for promoting products at the industry level needs to:

1. Arrive at a clear definition of the markets in which the various forms of the industry's products have potential.

2. Differentiate between factors in the external environment which have important positive and negative effects on the marketing of the product.

3. Assess the competitive advantage the various products could have in each of the situations/markets.

4. Analyse the immediate environment and core portion in order to understand how different factors can be influenced to create a favourable environment for marketing.

5. Develop an understanding of how the production and marketing activities in the core portion can be coordinated.

6. Assess the potential retaliatory action from competing products.

7. Assess the relative profitability of the different market opportunities and focus expenditures on the best ones.

In order for New Zealand to be successful in a competitive worldwide food and fibre market it will be essential to identify market niches and exploit them through advertising and promotion. Media campaigns will need to be linked with appropriate publicity, public relations and personal contacts. Packaging, pricing and the use of effective distributors will be critical to success.

With more people eating away from home, institutions such as restaurants, hotels, airlines and hospitals will become as much potential customers as traditional consumer families. This will be true at home and abroad.

The keys to future success will be to hunt for cost-effective methods to identify and exploit potential markets, find new food products, discover new ways to gain and keep market niches, and provide incentives for increasingly effective management.

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Chapter 16

The Case for Producer Control

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The marketing scene has changed radically over the last few years. These changes can be traced to the actions of both our own and foreign governments, to general shifts in demand, and to technological changes.

Uppermost today are the results of the 'more market, deregulatory' philosophy of our current government set against a rising tide of protectionism from abroad. A new macro-economic and foreign exchange policy has led to increased instability in exchange rates and hence in prices and incomes received by exporters and their suppliers, and uncertainty over firms' competitiveness in foreign markets. Then the Government's reduction in border protection and deregulation of various sectors (e.g. transport, wheat, imported fruit) have stimulated the competitive environment at home. The behaviour of foreign governments in support of their farmers and the subsequent disposal of their output, has led to increased competition in foreign markets, too. Technological advances continue to be made, and especially relevant here are those in the areas of biotechnology and information. Finally, food demand changes have occurred including more emphasis on value-added products, and changes in preferences due to health considerations.

The distribution of power has changed in some channels, especially where power was formerly based on legislation which has now been modified (e.g. statutory marketing legislation and import protection). Concentrations of power will continue to evolve as firms react to the more competitive environment.

Today, many of those involved in marketing face greater competition on the domestic market, increasing competition on foreign markets, and a raised level of economic instability and uncertainty.

Restructuring will be unavoidable when existing inefficiencies are removed. For example, markets can fail to perform because of a lack of information on the part of exporters and/or a concentration of power by buyers. This can result in a 'weak selling' position, or poor quality product offered on the part of some suppliers which can influence buyers' attitudes towards not just those suppliers' products, but to New Zealand produce in general. And, finally, it is well-known that the 'free-rider' problem may lead exporters to underinvest in product and market development activities, because they know that others will share in the benefits.

The evolution of a different structure could simply mean the adoption of new mechanisms for making transactions and the emergence of new leadership and control. For example, increased uncertainty may encourage firms to integrate. Biotechnology may allow the production of consumer-specific products for which current market systems are inappropriate. Advances in information technology may allow traditional commodity markets to respond more quickly to price and quantity signals. And changes in statutory legislation will certainly create opportunities for different leadership to emerge.

No matter what mechanism is used within a new marketing channel, it will involve costs in both time and money. Examples include a food processor seeking to control crop production through his contracted growers, or a corporate manager attempting to monitor activities within the individual divisions of his firm. These costs could involve managerial incentive payments and monitoring and control expenditures. Costs could also occur due to a lack of control.

Restructuring benefits include reductions in some of the above costs, and efficiency gains associated with improved functions. Risk may be shifted to those best equipped to absorb its effects. Restructuring may also improve access to finance and information. In the presence of uncertainty and information deficiencies, continuous flow economies in product assembly, grading, packaging and processing might be better realised under systems that place less reliance on market-based exchanges. Restructuring may provide benefits when profitability is influenced by the harmonisation of the processing system.

Further benefits could come if the new structures led to reduced spoilage of perishable products, or to a greater ability to handle products

such as chilled meats without risk of spoilage. Benefits will result if restructuring will allow market failures to be overcome, for example through the ability to avoid weak selling or problems associated with variable quality. Finally, restructuring might also increase the ability of New Zealand members of our export marketing channels to control the activities of foreign firms from whom they purchase inputs or to whom they sell products, and therefore to maximise export receipts.

Agricultural marketing channels are often characterised by large numbers of farmers. In the absence of government intervention processors and wholesalers may be able to use their power to control the marketing channel in their own interests.

This is a naturally-occurring power structure. When large numbers of farmers are coupled with the potential diseconomies of attempting to manage and control larger farms, and these are dependent on only a few processors, it follows that individual farmers have negligible power to influence events. Governments, from time to time and in various countries, have responded to this situation in the belief that the 'natural' power balance was inequitable. Hence the creation of statutory marketing boards and the encouragement of cooperatives.

Farmers and their organisations need to consider what degree of control they wish to exert in their marketing channels. Current government policy appears directed at reducing producer control through statutory means. At the same time the numbers of firms further downstream are becoming smaller due to merger and 'rationalisation' activities. When the mechanisms that gave farmers such countervailing power in the past are dismantled, what mechanisms might be developed to limit the power of the processing/marketing sector?

Contracting covers a variety of arrangements as a means of co-ordinating activities. Vertical integration differs from contracting in that it refers to the ownership of marketing functions located in at least two separate stages of the channel. Contracts generally serve at least three purposes: to specify product characteristics, including price; to provide performance incentives; and to distribute risk. Risk, in this context, has two broad dimensions - unknown outcomes of future events (e.g. crop yields and prices) for which insurance may be available, and uncertainty over whether one partner to the contract will perform to the other's satisfaction.

Contracts cannot be expected to achieve all three purposes perfectly, hence tradeoffs have to be considered. For example, a harvesting contract that specifies wage rates per kilogram picked provides the

contractee with a greater incentive to work, but more of the risk associated with variable yields than if the contract specified an hourly wage.

A good example of alternative contract design concerns broiler production in Thailand. The inexperienced grower starts with a wage contract, with the contractor providing all supplies and expertise, and assuming all the risk. After gaining experience, the grower may move to a guaranteed price contract, where the contractor supplies inputs at a specified price, and purchases the final product at a guaranteed minimum price. The risks shouldered by the farmer are those relating to bird mortality and growth rate. Finally, the grower can become independent and have no contract, assuming the responsibility to purchase all inputs and find his own markets, therefore bearing both price and quantity risks.

With vertical integration the exchange process becomes internal to the firm. While we will likely see more use of non-market co-ordination in the future, it is not clear whether the current environment will encourage further vertical integration. Deregulation has disturbed the industrial status quo and much merger and take-over activity is occurring as firms redefine their boundaries. Deregulation has also, however, removed or reduced many price distortions that were present in the economy, which, in the past, have encouraged integration as a means of avoiding them.

Vertical integration may also arise from the power distribution within the marketing channel. One firm may integrate into another level of the channel to discourage other firms from entering and controlling that level, or to ensure that its products are used in the subsequent stage. Such a firm might also be able to sell to a range of markets so as to maximise returns. A firm may even integrate backwards to allow it to bypass higher prices charged by a monopolist supplier.

Conditions in the meat industry seem particularly conducive to increased coordination by contract or independent vertical integration. These include instability and uncertainty, slow or negative market growth for traditional products, inability or lack of desire to reward quality production, strong competition overseas, and financial stress faced by farmers and processors. At present, processors appear to be integrating horizontally so as to achieve better utilisation of processing capital. The increased concentration of power at the processing stage may then add to other factors associated with meat market characteristics to encourage greater reliance on non-market transactions, such as contracts. How well such mechanisms perform will depend in part on how effectively

processors can monitor production, and on the incentives that can be offered to farmers. Advances in information technology should help in any case.

For example, the efficiency of livestock and wool markets improves when electronic trading - sale by description and objective sampling (i.e. grades and standards) - is adopted. Electronic sorting has led to efficiencies in quality measurement and the grading of fruit. New information technologies might also help improve forecasts of crop quantity, quality and price through the adoption of more accurate and timely crop reporting systems. Advances in technology will also enhance the ability of managers to monitor contract production, or to control production decisions within integrated firms.

Biotechnology or genetic engineering may encourage product differentiation in agriculture and horticulture, by allowing the production of items designed for a specific target market. In such cases commodity markets may not be required in order to locate a buyer, and contractual sales or integration could become the norm.

The two statutory marketing boards in New Zealand involved in export trading deal with the processed dairy products and the apple and pear industries. Both these boards enjoy the sole right to export.

In defence of this distribution of property rights, it is important to remember that market-based transactions can fail. Whether or not it was the intention of past Governments, the sole exporting rights given to the boards may allow these market failures to be overcome. For example, the boards can avoid weak pricing, they can plan product distribution and the timing of sales, they can define and enforce quality standards and they can invest in market and product development in the knowledge that the benefits will not be stolen since competing New Zealand exporters do not exist. The boards are also in a situation of power when negotiating with foreign members of the channel, such as shippers, wholesalers, retailers, or government agencies. Critics will say that the export monopoly marketing board is not the only solution to market failure problems. However, until the research has been done, we cannot be sure how the alternatives rank.

Not only have past Governments given these trading rights to the export boards, they have also decided that they should be controlled by producer representatives, probably to overcome farmers' traditional lack of power in privately-managed channels. For this reason, one is less concerned about the criticism that there exists no competitive check on prices paid to growers in these industries, than in other sectors where

such control lies out of producers' hands. Further, advances in information technology should make it possible for producers to gain information on comparative prices in order to obtain some countervailing market power.

The export-marketing channels for pip fruit and processed dairy products exhibit a range of exchange mechanisms with which transactions are made. The New Zealand Apple and Pear Marketing Board has integrated into product assembly, grading and packaging for the local market, cool storage and processing; it has contractual arrangements with shipping companies and its wholesale agents; it uses competitive markets to sell fruit to some of its customers; and has verbally-agreed programmes to supply some supermarkets over specified future time periods. The Dairy Board is also well-known for its wide-ranging contractual and integrative activities.

Changes to the channel's power structure and environment suggest that new transaction mechanisms will emerge, and that the evolving power structure is likely to mean even less power held by farmers than now. Perhaps a case can be made for public assistance in strengthening the farmers' power base, but this will surely be debated.

Since market-based exchanges can fail under certain conditions, some people will suggest that New Zealand firms may benefit through greater control over the marketing channels. Others will argue this way lies counter to a more competitive freer market approach. In addition, the characteristics of agricultural and horticultural products, production processes, and markets all encourage contractual coordination and vertical integration, all of which can be obtained through negotiation outside of Government influences.

While advances in information technology will improve the efficiency of markets and overcome some market failures, the ability of managers to monitor and control marketing processes will also improve. Changes in biotechnology are likely to favour the use of contracts and integration. Considering all the possibilities, it appears likely that in New Zealand, a greater use of non-market coordination will be observed in future.

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Chapter 17

Options to Producer Control

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The structure and performance of agricultural marketing organisations has long been a topic of debate in New Zealand. Like most other major agricultural countries New Zealand has many organisations which influence marketing of agricultural products. Although some of these institutions are long lived, their nature and activities have varied considerably as they have responded to changing economic and market conditions.

Attention is frequently focused on the larger organisations which have a high profile at national and international trade levels. Changes in these organisations have been the cause of considerable debate. For example, the wool acquisition debate in the early 1970s led to polarisation of farmer and politician opinion about the efficiency of and the most appropriate tasks for farmer- controlled marketing organisations. The more recent controversy surrounding the Meat Board's control of the export marketing of sheepmeats raised similar concerns amongst farmer and taxpayer groups, because that activity has resulted in a financial deficit which will be funded from general public revenues.

The apparent success of some of these institutions has also been a source of pride to New Zealand producers. The New Zealand Dairy Board, the Apple and Pear Marketing Board and the Kiwifruit Authority are now internationally recognised trading organisations. Organisations of this type are frequently held up as examples to be followed by other industries, but unfortunately the discussion is often focused only on the

structure of the organisation. It is commonly felt that because a particular structure appears to have been successful in one industry it can work equally well in another industry. Such reasoning pays no attention to the important differences which might exist between industries, and the markets which they serve.

The rapid development of new industries, such as deer and goat farming and the diversification in horticulture, has led to a proliferation of new smaller marketing organisations. The changing economic climate makes it appropriate to consider their role in marketing.

It is crucial at the current stage of development for these industries that attention should not be focused on structures and organisations which have been used in the past. It is essential to develop institutions which address the specific requirements of industries, and reflect the characteristics of the industry and its market place.

In this chapter we attempt to explore the reasons for the development of existing structures and organisations for marketing New Zealand's agricultural and horticultural products. The background to the development of farmer marketing organisations is outlined, and then an alternative approach to marketing is proposed which looks at the need for increased producer cooperation and institutional development.

Although it is fairly common for marketing firms to become vertically integrated, it is uncommon in most non-agricultural industries for firms to form horizontal linkages. In many instances such behaviour results in the joint handling of product and finances and could be viewed as collusion and unlawful in some countries. Such behaviour however, quite uncommon in agricultural and horticultural marketing where many such organisations exist. These range from simple voluntary producer cooperatives to large marketing organisations which have extensive powers and rely on legislative authority for compulsory producer participation.

Organisations possessing legislative blessing are common in agricultural industries throughout the world. The reasons for such support include the fact that agricultural industries have a large number of very small producers each of whom has little or no control over the prices received for the products. It is also argued that agricultural industries are prone to much production instability associated with the weather, biological processes involved, the lags which exist in the production cycle, and the special characteristics of demand for food products.

Thus, it is not surprising that, at times when prices are low or unstable, producers seek a means by which they can control the prices they receive for their products. The need for 'orderly marketing' in agricultural marketing channels has been frequently identified in the agricultural marketing literature over the past 100 years.

The growing awareness and use of marketing management techniques in all aspects of business has changed the emphasis somewhat and, in recent years, it has become more common to find producer groups identifying the need for more 'coordinated marketing' which includes the development of industry-wide strategies.

Approaches to these persisting problems have varied widely throughout the world. For example, in the United States and Europe there has been extensive use of Government-sponsored market orders, quotas and cooperatives to protect farmers from the instability of the international commodity markets. Fixing prices, storing products, controlling production, diverting products into alternative markets, and controlling trade flows are also used to curtail market fluctuations. In Canada, Australia,the United Kingdom and New Zealand an alternative strategy of allowing producers to have more direct control over their own industries is employed. In these countries legislation has allowed producers to form marketing boards and similar institutions. From a government point of view such a strategy is desirable because it is an inconspicuous form of intervention involving less government activity and use of taxpayers' funds. This does not mean that these policies have no social impacts. In many cases the powers granted to the marketing institutions enable producers to influence consumer prices and the profitability of other firms in the agricultural industry.

Like many countries, New Zealand has allowed statutory marketing authorities which perform a variety of marketing functions. Some of these organisations have been in operation for more than 60 years.

These institutions were set up following World War I. Prior to the war, unsuccessful attempts had been made to regulate marketing in the meat and dairy industries. During the war, however, the free enterprise system which had operated in the meat, dairy and wool industries was suspended, and an Imperial Commandeer of major primary products was in force. Under this arrangement, the United Kingdom bulk-purchased products at fixed contract prices which were perceived to be both high and stable.

After the war free markets were associated with low commodity prices, and it soon became clear that producers associated high, stable prices

with controlled export marketing. Consequently, the New Zealand Meat Producers' Board and the Dairy Produce Control Board were set up in the early 1920s. Both boards had wide-ranging powers to deal with the export market.

However, these two Boards chose not to utilise many of their marketing powers. At first the Dairy Produce Control Board took control of the entire marketing process. However, much producer unease about acquisition, pooling arrangements and minimum price levels soon led the board to abandon its attempt at controlled marketing in favour of less interventionist activity. It fell back to only using promotion, research and co-ordinating shipping arrangements. The new Meat Board behaved in a similar fashion, restricting its activities to market surveys, grading, freight negotiations and maintaining a watchdog attitude towards meat slaughtering and export costs.

During this period, another major statutory body, the Fruit Export Control Board, also came into existence. In this case, however, the pipfruit industry moved rather rapidly towards a high level of statutory intervention with the Board exporting fruit on growers' behalf. The reaction of the wool industry to post-war stockpiles was entirely different. Rather than allowing this wool to enter the market in an uncontrolled manner, New Zealand, Australia and the United Kingdom formed an international cartel, the British Australia Wool Realisation Association Ltd (BAWRA), to dispose of stocks in an orderly manner. This was achieved by 1924, and BAWRA was wound up. The New Zealand wool industry then returned to a free enterprise system until World War II.

The Depression and World War II heralded a major change in attitude towards statutory marketing of agricultural products. In 1936, the Government stepped in under the auspices of the Primary Products Marketing Department and acquired all dairy produce at a guaranteed price. During the war, a bulk purchase agreement with the United Kingdom was in operation and the Primary Products Marketing Department administered this for dairy products, meat and wool. A lack of shipping space precluded the export of pipfruit, which the department disposed of on the domestic market. The bulk purchase arrangement with the United Kingdom continued until 1954. After the war, fruitgrowers saw the need for an appropriate marketing organisation. As a result the New Zealand Apple and Pear Marketing Board was formed in 1948.

Fledging statutory organisations had begun to emerge in the wool industry. Falling prices during the 1930s once again led to international cooperation with the formation of the International Wool Publicity and

Research Secretariat. A national counterpart, the New Zealand Wool Council, was set up to collect levies for the secretariat, and to stimulate research into wool production, and promotion of wool. This council was replaced by the New Zealand Wool Board in 1944. Growing wool stocks at the war's end resulted once again in an international cartel. New Zealand's part of this process was administered by the newly-formed New Zealand Wool Disposals Commission.

At the conclusion of the bulk agricultural purchase agreement in the early 1950s, the direction of statutory involvement in the four major agricultural industries diverged. Marketing of dairy products and pipfruit was dominated by statutory boards which were required to purchase product at set prices and market the output on behalf of the industry. With minor modifications these arrangements remain in force today.

On the other hand, the New Zealand Meat Producers' Board essentially reverted to its pre-war role of watchdog of the private enterprise system. In addition, however, it administered the new minimum prices scheme which was backed by the now substantial meat industry reserve funds. Attempts to diversify away from the United Kingdom market were also made at this time with the setting up of Devco and the introduction of diversification targets along with associated penalties and bonuses.

The 1970s brought a marked change to statutory behaviour in the meat industry. The board began to intervene selectively in the market in response to low prices. In addition, it consolidated its power to control selected conditions of export. Finally, after a difficult year in 1982, it intervened and took overall control of export marketing. This arrangement continued until 1985/86 when the board handed the responsibility for sheepmeats marketing back to the private sector in the face of criticism of its activities by both exporters and government. Currently, much of the board's activity appears to centre around promotion and research.

In the mid-1970s, concern over the structure of the wool marketing system emerged, and the so-called 'acquisition debate' gained momentum. However, support for more major statutory involvement in wool marketing was not evident and the New Zealand Wool Board has continued to intervene in a modest way through promotion and research activities, and intervention on the auction floor. Board activity is now aimed at stabilising prices rather than propping them up.

In recent years a new statutory style has emerged with the New Zealand Kiwifruit Authority. Kiwifruit production began to expand in the 1960s. Fears that current markets could not absorb the projected production led to attempts to increase demand through promotion activity. It was financed by a voluntary levy on growers and exporters and administered by the Kiwifruit Export Promotion Committee. The success of these promotion efforts boosted prices which, in turn, attracted new growers and exporters into the industry. This led to concern by existing producers about free-riding and lower quality product hurting growing markets. As a consequence, an industry demand for a marketing board emerged and culminated in all parties agreeing to the concept of a licencing authority.

This authority came into operation in 1977. Its predominant role was to license exporters with the object of promoting orderly marketing so that quality was maintained and exporters did not undercut each other. It continues to do this, as well as emphasizing promotion and setting sales targets in individual markets. In recent years it has encouraged diversification away from traditional markets and is increasingly involved in production research and product development.

A number of points emerge from the development of New Zealand's agricultural marketing authorities. First, different structures have emerged in different industries, despite the similarity of the problems perceived in the individual industries. For example, dairying and pipfruit adopted highly regulated marketing structures in response to low prices. On the other hand, the wool industry, which initially regulated due to perceived low prices, reverted to private enterprise marketing after international wool stockpiles had been cleared. In more recent years, the kiwifruit industry instituted licencing of exporters, partly in response to the threat of oversupply and low producer prices.

A second observation is that statutory structures have changed direction at different points in their history. Despite initial attempts to highly regulate dairying, the 1920s were characterised by low levels of statutory involvement. This changed with the Depression in the 1930s and, by World War II, the marketing of all major agricultural products was tightly controlled. At war's end, the dairying and pipfruit industries opted to continue with these highly regulated structures which remain today On the other hand, the wool and meat industries reverted to lower levels of regulation.

A final observation which emerges is that the economic policies adopted by statutory marketing institutions have changed over the years, despite the fact that institutional objectives appear to have remained

stable. Initial policy emphasis was on generic promotion aimed at increasing demand, and on trimming supply costs through research aimed at lowering production, processing and marketing costs. By the conclusion of the World War II, however, guaranteed pricing schemes had been in operation in all four major industries. After the war, the emphasis again changed and market diversification programmes were forerunners to the more sophisticated market segmentation policies eventually adopted in all industries. For example the wool industry has moved towards targeting promotion and product development to specific market segments. Kiwifruit marketing has likewise moved straight into demand management policies with promotion activity, product development and the marketing direction which are implicit in licencing arrangements.

The major feature of the sophisticated marketing programmes which have been developed by these agencies is the level of coordination and control developed over handling in New Zealand and in overseas markets. In cases such as the Dairy Board this control tends to be absolute and has extended to the ownership and control of firms in other countries which handle products other than those from New Zealand. For example, in recent years the board has acquired ownership of several firms in the United States which allows them increased control over the marketing of domestic dairy products and imported products in that country. These, plus similar strategies in other countries have extended that board's role beyond simply being a marketer of New Zealand's dairy products. It is not difficult to see how such changes could benefit New Zealand producers. It also implies considerable change in the organisation and complexity of ownership structures.

The degree of control which is required to implement such strategies relies heavily on the statutory powers granted to these organisations. In the meantime the changing economic climate in New Zealand since 1984 has raised considerable doubts about the continuation of such powers. Although the powers of these larger organisations have not been threatened at present, it is significant to note that no similar power has been granted to any industry in recent years. There has already been considerable deregulation of some marketing organisations and arrangements in such areas as the egg and wheat industries, town milk marketing and the fresh fruit distribution system.

The proposed Horticultural Export Authority Bill which was intended to provide licencing powers over a wider range of horticultural products similar to that used in the kiwifruit industry appears to have been stalled in the legislative process for a number of years. These recent developments imply that in the future agriculture and horticulture

producers are unlikely to be able to rely on statutory powers to provide compulsory membership of marketing organisations and control over export marketing channels.

The rapidly changing economic environment provides an opportunity to consider the nature and structure of marketing organisations which might emerge in a deregulated economy. Because the fundamental characteristics of our agricultural and horticultural industries will not be affected by deregulation, the problems and concerns of the individual producers will continue to exist in the future. This is probably not as dramatic as it sounds because the industries which have emerged in recent years such as deer farming, goat farming and a wide range of newer horticultural industries have all developed in the free market system. It does not mean that marketing institutions and organisations will not exist to influence marketing, but they may utilise powers in a manner different from that which is seen in the largest statutory organisations today.

The key to understanding how new institutions and marketing structures might emerge is to consider the motivation and benefits which are likely to occur for producers who participate in cooperative activity. In almost every industry in the New Zealand economy some form of cooperative activity exists. Within industries other than agriculture this is often in the form of trade associations which perform useful functions such as monitoring legislative changes which are likely to influence the industry, provision of market research and information about trends and developments in the industry and, perhaps most importantly, providing a forum in which problems can be discussed. Because membership of such institutions is voluntary, each individual firm must be able to assess benefits which they are able to obtain from membership. The fact that such a large number of these institutions exists indicates that there are obviously benefits from voluntary membership. Often these benefits are in the cost savings from collecting and distributing information, and in the ability of the organisation to provide a united approach to common problems.

Because of its fragmented nature there is probably an even wider range of voluntary associations in agriculture and horticulture industries. Each of these in their own way will have some impact on the performance of individual farms and the marketing system. Common examples include farm discussion groups at which farmers exchange information about prices they have received, farmer cooperatives which directly handle and market the produce from their members, and institutions such as the goat fibre warehouse which facilitates the exchange of produce between producers and users of that product.

Although these specific examples are very different their common feature is that participation is voluntary, and that it provides some financial benefits for users.

The sources of financial benefits fall into several major categories.

(1) **Information transfer.** It can become very costly for individual producers to accumulate all the required information about production techniques and market information on their own behalf. Thus, it is not uncommmon for producers to share this task and pool information. Each individual member is able to benefit from the pooled knowledge and information. When new information must be collected, the cost can be shared.

(2) **Economies of Size.** Producers frequently use voluntary associations to capture the benefits which are associated with economies of size. Producer cooperatives are probably the major type of institution used for this purpose and they are evident in almost every agricultural economy in the world. Their functions and purposes vary widely but all have the common feature of attempting to maximise the participants returns, or to minimise costs by handling the producer's product. Again, such organisations vary markedly in size from jointly-owned packing facilities to very large marketing cooperatives which handle the producer's product through to the final consumer markets. Many of the functions which are carried out by cooperative organisations could also be carried out by private firms and the relative advantages of these alternatives have been widely discussed in the agricultural marketing literature. Perhaps the major point to be made is that such organisations provide producers with considerable flexibility to intervene in the marketing and the handling of their products. They provide a strategic mechanism by which producers can contest the performance of private companies which may seek to perform similar functions.

(3) **Joint Promotional Activity.** Because of the size of individual producing units it is seldom economic for an individual producer to promote their own products. However, it is felt that in many industries it is profitable to undertake some form of promotional activity which would benefit each individual producer.

(4) **Research and Product Development**. Although producers can benefit individually from the adoption of new technology or the production of new product forms, historically this has been a major area of government involvement through the Ministry of

Agriculture and the Department of Scientific and Industrial Research. It is usually argued that such government involvement is necessary because the costs are high and the benefits which result cannot be captured by individual farmers and may even benefit the economy as a whole or consumers in overseas markets. The changing economic structure in New Zealand, and particularly the 'user-pays' approach to research, raises some major issues in this area. With the removal of government-sponsored research there will be an increased dependence on industry sponsored research. Although New Zealand has some conspicuous examples, such as the Meat Industry Research Institute and the Wool Research Organisation, it is notable that these are themselves funded from the statutory requirements of the boards. Therefore planning will be required to identify methods by which research can be carried out and benefits obtained for users in industries where involvement is voluntary.

(5) **Provision of Marketing Facilities to Aid Exchange.** Although such action is not particularly common within New Zealand, producers in many overseas countries have acted together to provide facilities which can minimise the costs associated with selling products. Obviously examples include cooperatively owned clearing houses or auction facilities. Selling costs are minimised by providing a venue for sellers of the product to be exposed to the maximum number of potential purchasers. In other cases they may facilitate the aggregation of product into shipment sizes which are suitable for the appropriate user. A major benefit of such institutions is their ability to provide clear price information to both buyers and sellers without the need for the organisation to actually own the product. Perhaps the closest examples in New Zealand are the goat fibre warehouse and the Wool Board's involvement in the marketing of wool.

Although these options are seen to be quite extensive there are limits to which the activities of voluntary associations can achieve benefits to the industry as a whole. The most obvious difficulty is commonly known as the free-rider problem. Simply, this is the inability of the participants, who pay the costs, to capture the benefits which may accrue from their activities. Perhaps the most obvious examples are in joint promotional activities and research and product development. If it is possible for producers to achieve benefits without contributing to the costs, it can be extremely difficult to raise funds for such activities.

The key to successful voluntary cooperation in marketing activities is the ability of industry planners to identify groups who can both pay the

costs and achieve the benefits associated with activity. Perhaps one of the major needs in this area is a much better understanding of, how these organisations can influence the profitability of the individual producer.

Free-rider problems are probably the major reason that there is frequently considerable pressure for legislation to ensure compulsory membership of marketing organisations. Such a move obviously overcomes the problems of raising funds and can also considerably enhance the possibilities for increasing producer returns. Many of these activities such as price stabilisation and pooling returns have been widely used in New Zealand. While the ability of marketing organisations to aid producers may be increased through such activities it is also recognised that there can also be major costs.

The most frequently cited problem is that the compulsory participation in marketing board activities can preclude producers from using alternative marketing channels. In such cases, it can be difficult to monitor the performance of the boards. For this reason many commentators have identified the need for competitive private marketing alternatives to exist alongside the board-controlled activities. While an arrangement of this type would appear to work satisfactorily in cases such as the wool industry it may not be appropriate in other circumstances. This will again depend on the nature of the benefits which the marketing organisation attempts to gain. With the dairy or apple and pear industries there are obviously major benefits in adopting market segmentation strategies which rely on differentiating products and prices among markets. The presence of private firms in such industries would not allow those benefits to be achieved, since it is the competitive firms who seek to sell in only the high-price markets.

It is clear that careful assessment has to be made of the benefits which might be obtained from carefully controlled marketing systems as against the efficiency of resource allocation and opportunity-seeking which might be seen in a competitive market.

The changing economic environment provides an ideal opportunity to reassess the directions of marketing developments in both new and older industries. For new industries it will be important to consider the need for legislative authority, then to carefully consider the full range of alternative structures which might perform similar tasks at an acceptable cost.

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Section VI

Role of Government

Chapter 18

Politics and Agriculture

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The political changes impacting on farmers in 1987 have their origins in the 1930s, the time of the Great Depression, and of the election of the first trade-union based Labour Government. Today's farmers are being adversely affected by the removal of policies initiated to help their grandparents. Policies which, when combined with World War II and its aftermath, produced 40 golden years of prosperity for their parents who not unnaturally used every political expedient to prolong that economic security.

The year 1984 saw the election of a new-look Labour Government composed of young, liberal, middle-class, professional and urban-oriented individuals determined to avoid the reputation of previous one-term Labour Governments for being kind-hearted, with a social conscience, and a bit naive economically. The preoccupation with economic reform, the determination to free New Zealand from its 50-year accumulation of controls has achieved a remarkable turnaround and three years later still enjoys considerable support from the better educated in the higher socioeconomic groupings.

The urban unskilled and the rural dwellers, who have financial commitments, are now in a serious state of depression, but rural dwellers with capital who are free to invest in urban development, the financial sector or off-shore are anxious to see no political change. New Zealand is on the brink of a return to the bitter debates which formed the New Zealand Labour Party and which eventually caused the demise of the Farmers' Union organisation. The debate is as old as civilisation and recycles continously through societies. The differing names and

titles confuse the casual viewer of history, but the underlying objectives never change. It is simply a choice about controls versus freedom; intervention as opposed to hands off.

Superimposed on this issue was the long-delayed transition of power in New Zealand from the rural to the urban sector. The gradual shift was artifically delayed by the 1930s rigidly controlled foreign currency regulations.

It is difficult for most of us to understand the influence of experiences we ourselves have not been exposed to. The best we can do is try to imagine. But even that is no substitute for the actual experience of not having enough money to feed and clothe one's family properly; to fail in the eyes of one's wife and children; to be sold up, to walk off, or to be too poor to help a sick child.

It was such experiences that prompted our grandparents, against advice from economists and affluent land owners, to form cooperatives; to keep operating the dairy factories that proprietary companies abandoned; to form farmers' insurance companies, rural trading stores, bobby calf pools, fruitgrowers' associations and meat companies.

Government intervention was as dirty a word in the 1930s as it is today. The debates were bitter, but private enterprise free trade could offer no solution to the Depression misery. Collectivism and Government intervention could, and they did. Fundamentally, the world and world trade has not changed. Farmers, still at times produce more than a finite market can absorb. Dairy and fruit farmers, the less affluent ones, accepted the challenge and as a result are better placed today than, for example, the sheep farmers whose efforts to do the same thing were less successful (probably because of the greater economic disparity among them). Dairy farmers and orchardists are more uniform in their economic holdings than sheep farmers, and in times of duress have recognised they had little option but to co-operate or go under.

On the other hand, most of the larger, better and longer established graziers have been able to survive. Dairy farmers, always more politically active and pragmatic, were able to punch through legislation making the New Zealand dairy industry a compulsory co-operative. Walter Nash helped obtain Reserve Bank credit for them and the promise of a guaranteed price. Ironically, the guaranteed price (which attracted thousands of dairy farmers' votes and helped Labour gain office in 1935, and saw a Waikato dairy farmer, Mr W. Lee-Martin, installed as Minister of Agriculture) was repudiated in 1957 by a Labour Government when it was called on to compensate for low prices.

The Depression, World War II and the post-war shortages ushered in policies which guaranteed security through the sale of every kilogram of New Zealand's production, irrespective of quality. At the same time policies protected industry and thus guaranteed urban full employment. Two results were that rural interventions were capitalised in increasingly overvalued farmland, and dismal productivity levels persisted in most service industries.

The security of these 40 protected years produced a uniquely New Zealand egalitarianism where we had few obviously rich people and no really poor people or slums. No large houses were built in that era, although they were built prior to 1935 and after 1975. The 1935 Labour Government and their subsequent policies redistributed wealth both for rural and urban dwellers.

A phrase which is rarely heard these days is 'the Land Question', except in reference to Maori land confiscation. Historically the 'Land' has always been seen as the key to wealth and security. The control of the 'Land' was synonymous with power and export generation, from which flowed New Zealand's standard of living. Socialist reforms historically have manifested themselves in redistributing land ownership to a wider cross section of the community. However, there is a school of thought which suggests that today technology and the possession of specialised knowledge and managerial skills have replaced land as the tangible evidence of power and control. This implies that land ownership will no longer ensure security and sustenance for its owners. It may be that a share portfolio will replace a rural estate as the ultimate kiwi achievement.

It may, perhaps, be helpful to recall that the pattern of high, short-term prices and land values, followed by long- term recessions has been a consistent one in New Zealand since European settlement. Our current situation is similar to the late 1920s following the post war boom. It was in this period that the New Zealand Meat and Dairy Boards were formed. High interest rates combined with poor market returns, initiated the birth of Social Credit (then known as Douglas Credit) in North Auckland.

Minute books of the Farmers' Union recount the misery being caused to returned soldiers given access to farm land with high interest rates, which eventually forced the Government to legislate for the quite draconian and compulsory write-off of farmers' mortgages based on the farm's productive ability, irrespective of mortgagor's position or circumstance. The difference at today's farm finance meetings is that discounting is voluntary albeit with a fair degree of peer pressure.

The pressure for the Government in 1930s to intervene further came not only from the electorate, but from off-shore creditors, especially in the United Kingdom. The U.K. Government agreed to provide loans, on the condition that future purchases of farm produce be assured to them. Currency export and import controls as well as the licencing of imports of all raw materials and manufactured goods, were also instituted. The State Advance Corporation was set up to advance money at concessional rates to first home and farm buyers.

The 1930s brought changes many of which were promoted by farmer pressure groups, especially the Farmers' Union. The debates on intervention were intense, with splinter groups moving off at tangents. So fierce did the debates become that the Farmers' Union eventually collapsed and was replaced by a federation of specialist product groups. The original Federated Farmers grew from the United Wheat Growers which formed the basis of the Arable Section. The Sheep Owners' Federation formed the Meat and Wool Section, while the Dairy Producers Association became the Dairy Section.

In the old Farmers' Union the small-scale farmer, anxious to co-operate with his neighbour, clashed directly with the large-scale graziers who wished to retain absolute autonomy. Today, as revealed in New Zealand Meat and Wool Boards Economic Service data, the sheep farmer is much less in debt than the dairy farmer (i.e. 70 percent of New Zealand sheep farms are unencumbered). If the Dairy Section of Federated Farmers were to have a joint meeting with the Meat and Wool Sections it would find itself locked into an intense and probably pointless ideological debate. Dairymen still want collective effort; sheep farmers still want autonomy at all costs.

It must also be remembered that the majority of farmers do not go to Federated Farmers' meetings even though they do renew their subscriptions. Consequently, Federated Farmers' leadership always has the dilemma of being pushed by the farm activists who attend meetings, and pulled by the generally informed but politically inactive majority which is capable of becoming rapidly active if the leadership adopts unacceptable policies. We witnessed this situation in the 'Great Wool Debate' in 1973 on the issue of compulsory acquisition of the national wool clip. Dairy farmers and apple and pear growers, who for decades had had their crops compulsorarily acquired, were quite bemused by the furore of sheep farmers refusing a greater security option.

The Federated Farmers' structure allows quite dichotomous debate to take place. The Produce Sections allow specialists to sort out their own particular industry problems and seek their own individual answers. My

belief is that the bitter debates of the 1930s are yet to emerge in 1987 is based on the fact that the farming industry has not yet entered fully into the current depression, and unlike the 1930s the urban sector is still affluent and likely to stay that way. The public marches staged in Wellington and provincial towns indicated that there is a widespread problem, one which has been slow to manifest itself because it is just beginning to bite into farmers' bank accounts. The recent farmer action at forced farm sale auctions was an indication of what is yet to come since there are about 5000 farmers, (by Rural Bank estimates) who will not survive the current economic downturn.

Farm mortgage discounting and finance restructuring meetings, combined with Dairy Board action to lessen the impact of the recession, are reducing the magnitude of the problem, but there is much worse to come. The dairy and lamb markets may have bottomed out, but the full impact of poor prices have not yet hit the 'cocky' on the land, and soon he will face a very low advance payment, no residual of any consequence from last season's returns, and massive cost increases, especially electricity, and interest charges, will wipe out profit margins. Lower stock numbers, higher killing charges and no fertiliser will compound sheep farmer debt.

The ability of the various farming sectors to retain their former vigour in this new order will depend on the degree of vertical integration that has occurred in each one. The meat industry would seem to be the most vulnerable and the least likely to get its act together to return producers a greater share of meat's ultimate retail value.

The retailer of a fashion wool or leather garment will refuse to display it unless he or she can obtain a 100 percent mark-up. The sheep farmer traditionally accepts this; the dairy farmer does not. Dairy farmers are political activists. Sheep farmers are, by nature, highly individualistic, confident traders. They operate their business for months with no income, and no assurance of exactly what that income is likely to be. They seek individual rather than industry solutions to their problems. The grazing industry with its high risk, unpredictable, free life style, attracts people who seek this particular challenge. They are not going to change or alter the very things which attracted them to sheep farming. They have the option of selling or not selling livestock. Had they not been risk takers they would not be self-employed, had they not been traders they would have opted to work in a large company on a salary. Had they needed the security of regular, more predictable income they would have invested in a more integrated industry. The wool debate was a classic example of attempting to impose on a group of people a philosophy which was in essence, an anathema to them.

Sheep farmers as a group are close-knit and friendly. Commercially, however, they remain fiercely competitive both in the saleyards and the wider market place. They compete with each other and benefit from each other's adversities in the store stock market.

Established sheep farmers are able to make money in adverse times at the expense of their less affluent neighbours. This happens, and it has done for centuries, without rancour. Dairy farmers all get the same prices for their milk. They all must sell their milk daily. They do not usually separate the commercial from the social. Sheep farmers do and therein lies the source of the political dichotomy.

Most established sheep farmers will have some off-farm investment as a hedge against a poor season. Those with lesser resources are tenaciously independent and will go to tremendous lengths to maintain an outward calm and appearance of stability. Dairy farmers, because of daily milk collections and judicious cross-examination of tanker drivers, know what their neighbours' incomes are. Sheep farmers, like many fishermen, are generally less than precise about exactly how big their wool and bank cheques really are. Sheep farmers facing adversity become silent; dairy farmers will make loud noises at just the hint of a downturn.

The past 40 years of prosperity are slowly being erased from people's minds. The realisation is beginning to dawn that farmers' incomes are not going to be supported, that interest rates are not going to come down to former levels, and that a low New Zealand dollar, although theoretically possible, is unlikely to become a reality, at least not for some time.

Those with portable capital are benefiting from this new regime. Farmers, especially the encumbered ones, have their capital not only locked into their farms, but see farm values are still declining. The have-nots will emerge and become more vocal. More militant activists will emerge in Federated Farmers. It, in turn, will reflect a less 'establishment' view of economic theory than it does at present.

The only reason that the trade union movement, Federated Farmers and the Labour Party exist is to intervene. Only the trade unions are currently fulfilling their fundamental objective. The total system in New Zealand was long overdue for a massive change, but the promise of utopia in the farming community, after a short period of pain, will prove to be a bitter disappointment.

The idea of returning farm profitability by eliminating protection and allowing competitive market forces to operate is an old and well-canvassed theory. It is advocated, however, mostly by those who have never experienced the rigours of rural poverty.

Time will reveal the vulnerability of our miniscule economy and of pastoral farmers in particular with their longer term investment cycle, which cannot compete on equal terms with that employed by currency traders and the like.

The shift of power from the provinces to the city centres is no more than has occurred in every other society. The truly amazing thing is that it has taken so long, but this again is most probably related to the pecularity of our European settlement, our narrow-based primary economy, and our insulation from the population centres of the world. Our new relationship with Australia has ended all that, for no longer can we seek or implement a solely New Zealand solution. We are so interwoven socially and financially with Australia that unilateral action by us to contain either our people or their capital would prove futile.

Forgotten by many, for example, is the arbitary purchase by the Government of farm land for the settlement of returned soldiers from World War II. Land was compulsorily acquired at values determined by the Government not by a free market. Land sales legislation controlled land prices while agregation laws, still on the statute books today, limited farm land ownership to one economic unit per person. This legislation is currently circumvented by the ability to form a ten-person company.

Interest rates were rigidly controlled, while institutions such as life insurance offices and trustee savings banks were required by Government decree to allocate a proportion of their total lending to farmers at concessional rates. On the other side of the ledger there were several occasions when market returns took a spectacular upward turn and the governments of the day intervened and froze a proportion of farmers' income, then denied them the right to spend it, in a move to curb inflation.

When New Zealand entered the butter purchase arrangements with the United Kingdom, initially to provide collateral for loans, we agreed to freeze the prices of meat, wool and dairy prices as a contribution to Britain's war costs. New Zealand farmers were consequently not given the opportunity of benefiting from world price rises brought about by war-time shortages.

After the war was over, the British Government did make ex gratia payments to New Zealand in recognition of their action. However, those payments were not passed on to farmers, but were allotted to the Producer Boards and became the basis for their Reserve Accounts. The dairy reserves were the first to be paid out in 1957 when world dairy prices collapsed and the Labour Government of the day refused to honour Walter Nash's guaranteed price. The Wool Reserves were the next to go, but the Meat Reserves lasted more or less intact and have been used to finance farmer co-operative meat works, fertiliser manufacture and other industry benefits.

The past 40 years show continuous Government intervention. The Government provided finance at one percent for the dairy industry to trade. It financed, through its shareholding in the British Phosphate Commission, decades of cheap superphosphate. Government decree controlled our business, our lives and our welfare. It was deliberate intervention to protect us from the miseries our grandparents had endured.

No other nation settled such a high proportion of its citizens into their own homes or onto their own farms. New Zealanders enjoyed considerable security but the glasshouse atmosphere became increasingly restrictive as a younger generation, free from the doctrine of security at all cost, began to flex its entrepreneurial muscle.

The first sign of their impatience was the flow of urban capital into the kiwifruit and deer industries. Burgeoning urban affluence had exhausted most urban domestic investment. The urban investor, unable to export capital for investment, focused on the tax avoidance potential (as well as the development potential) of kiwifruit and deer. The ripple effect of this surge of capital played no small part in the escalation of rural farm land prices. SMPs have been blamed, but land prices had in fact peaked and were falling when SMPs reached their zenith. Forestry became another safety valve for frustrated urban investors. While helping to escalate land values this did provide a buyer for the marginal pastoral farm. Such buyers are no longer there and reversion back to scrub, especially in the North Island, is likely be that land's fate. It is ironic that much farmer spleen was vented on forestry companies. They were accused of depopulating regions, of being unfriendly neighbours and a blot on the landscape. Farmers used political pressure through local authorities, town and country planning and central Government to keep forestry companies from buying land.

Freeing up currency exports (advocated by many 'establishment' farmers) has changed all that. Only the Dairy Board fought a rearguard

action. But only the Apple and Pear and Dairy Boards are real exporters and operating in the real marketplace, with direct vested interests in actions from the land to the supermarket.

Only milk and apple producers own their own processing, do their own shipping, market their own products and do their own financing. Only they, the most reluctant of Labour Party admirers, have fulfilled the socialists' dream. History indicates that 1935 should have heralded the shift of power from country to town. However, the failure of secondary industry was undoubtedly the major reason why it didn't occur.

Farmers, after the fall of the Fraser Labour Government, still continued to dominate all the major decision-making bodies from Cabinet to Caucus. Until the mid 1980s the Wellington Airport at rush hour on almost every business day was reminiscent of a Young Farmers' Club reunion as folk of farming origin on every conceivable Government body from the Reserve Bank Board to a temporary committee on some obscure conservation issue, greeted and farewelled each other.

Today the airport crowd is just as large but it has become a University Students' Association reunion as union secretaries, laywers, accountants, academics and urban activists greet each other in transit. The nations' steering wheel is now firmly in the hands of academic suburbia at all levels of decision-making. The traditional blue collar trade unionist, like the farmer, is now no longer a force in the land. Technology has played a large part in that transition for no longer is human muscle a scarce and valuable resource.

Trade unionists are very like farmers in their outlook and philosophy though neither would admit it. They both believe in and trust conservative economics; they understand the sale of labour and the sale of goods; they do not trust the manipulation of 'fiscal invisibles'; and they do not understand or trust social experimentation, moral liberalism or sexual deviation.

I recall a visit to Auckland in the late 1930s - the hustle and bustle of tramcars, the railway station, the wharves. My father (a dairy farmer of miner/wage earner origins) explained that Auckland, a vibrant city even then, owed its existence and its prosperity to the milk from our little farm and those of our neighbours. That may have been true then. It is not today. The Auckland waterfront and the loading of ships was Auckland's lifeblood then; today it is a playground. The multi-storied glass towers are now Auckland's income earners. Busy young men and women flood into the central city in droves from 6.00 a.m. onwards

having already been for a rigorous run or physical workout. They wait impatiently at traffic lights in their SAABs, Volvos and BMWs, anxious to get to those telephones or screens where they will trade with the world till 6.00 p.m. without a break, too busy and absorbed even for lunch.

These new young, motivated kiwis are not a short-term phenomenon. They are here to stay. They now run the cutter and no Waikato cocky or Canterbury runholder will get within a bull's roar of the tiller, for these 'yuppies' now earn the exchange to buy the cars, and French wine.

Ten short years ago a downturn in fertiliser usage would provoke rapid Government intervention to keep topdressing aircraft aloft. Less grass meant fewer lambs, a lowered wool clip and a balance of payments crisis. SMPs were the last of those interventions, but those in charge today will look to such a rural-based solution to any problem.

What then is the new order for farmer politics and farmer influence? The future will be very, very different, but not too obscure if we think of where we have been, where we are now and where we might be tomorrow. The most difficult truth for a politician to accept is that politics do not initiate or even motivate. Instead, politicians react and facilitate. Social and economic change is constant, politicians only interfere and may perhaps speed up or slow down an inevitable change. They cannot take the credit, nor do they deserve the blame, for all the changes which effect us.

Federated Farmers will not change its structure, nor its system of representation, unequal though it is. The principal benefit of such a body is that it can accommodate a wide range of disparate groups. Even though their economic circumstance may be diverse, farmers tend to be price takers. Seeking the elusive goal of becoming price makers will continue to be their common objective. Federated Farmers is a federation even though those in it will forget from time to time and get sidetracked into commodity problems.

The statutory Producer Boards are in general not well understood particularly as they all tend to get lumped together in the assumption that their statutes are similar. They are not. The Meat Producers Board was formed originally to co-ordinate export meat shipping and ensure an orderly flow of lamb into the U.K. market. It has always had the power to acquire and trade, but has rarely exercised it. The Dairy Board is one of the Southern Hemisphere's larger multi-national traders, an extension of the dairy farm, retaining ownership and control of the product to the final consumer. The Apple and Pear Board is smaller but

probably the most successful of New Zealands' producer organisations in that it operates well with little taxpayer help and public criticism. The Wool Board, despite the common linkage with the Meat Board, is in fact extremely independent and shares little common ground either politically or commercially with its fellow boards.

Tagging along behind are a large group of farm-oriented statuary groups representing town milk, pork, honey, vegetables, deer, kiwifruit and wheat, to name a few, all of which have much less authority than their titles imply.

The power and function of the Producer Boards is rarely understood even by their members. The general myth is that a statutory Producer Board is an autonomous body. It is however, nothing more than a statute-authorised subcommittee of Government.

The Dairy Board, in essence, is very little different from the National Water and Soil Authority which co-ordinates and supervises Catchment Authorities' spending of taxpayers' money. Many dairy farmers, dairy company directors, and even some Dairy Board members would take strong exception to this assertion.

But what of the sensitive issue of the relevance of Producer Boards in New Zealand's future? How essential are they? Treasury has raised the question and has been severely criticised. Established conventions, especially those as entrenched and ingrained as the Meat, Wool and Dairy Boards become sacred in many people's eyes, and any questioning of their relevance is regarded as a heresy.

Yet, whether we like it or not, Producer Boards are responsible to Government, not to individual farmers and very few farmers realise that salutary truth. They exist because a group of farmers have asked the Government to exercise control over them generally through quality control, co-ordinated shipping, or orderly marketing regulations. Because it is the Government that ultimately exercises that authority, any individual appointed to a board or authority is responsible to and serves only at the pleasure of Her Majesty, not his or her farmer peers.

The new order in our economy, the shift in emphasis from intervention to independence, inevitably raises questions of the relevance of structures put in place 50 years ago. If reviewed, many will inevitably prove to be in need of change. For some the changes will be minor, for others they may prove terminally traumatic. For a small, autonomous island, almost totally dependent on primary exports, having Producer Boards makes sense. But for a small island off-shore from

Sydney and Melbourne (and Auckland now looks there rather than to Wellington for economic signals), will a Meat Producers Board perform the functions its original planners conceived for it?

The sheep farmer, who can delay trading for weeks in order to bargain the harvest of his annual lamb or wool crop and who makes his income from his buying skills in the saleyards, has no real interest in commiting himself to a contract to supply a vertically integrated industry. The meat industry has dabbled with single seller ideas but now appears to have given them away. That being the case, the Dairy Board could take over our cull cow exports and give the Meat Board a decent funeral.

The world of arable crops, now that we have free trade with Australia, would seem to have a difficult future with private sector processors apparently willing and able to import grains, vegetables and fruit. They need not commit themselves to domestic contracts.

I was born in 1935, a child of the welfare state. From the cradle to the grave the future was assured, or so I had smugly assumed. That dream is now shattered. I see looming on the horizon the horrors which haunted my parents of land values being less than one's debt, of a sheep realising less than the value of transport and processing, of being locked into the drudgery of milking cows well into my 60s because labour is just too expensive, and of the realisation that the value of my farm would buy me only a very ordinary house in Auckland.

There will be change, but not to my advantage. It will favour those in power, just as the interventions of the past 40 years benefited those who owned the rural land and were therefore powerful. Yet I will survive, in a modest house in a less affluent place than Auckland, with a second-hand car and friendly neighbours.

The human animal, especially the kiwi farmer variety, is an irrepressible optimist. However, the optimism abroad today is based not on fact, but on the fantasy that the post-war commodity shortage still exists, that food security is still a political issue, and if all else fails Bob Geldorf will lump us in with the Ethiopians and all will be well.

The reality is that agricultural and food processing technology is now so advanced, with so many exciting developments emerging, that the world needs fewer and fewer hectares to produce more and more food. India, from being a food importer, is now an exporter, while China will be a net exporter before the end of this century.

As farmers we love to think that the land is still the basis of security and affluence. The fact is that high technology and information and the possession of knowledge, be it financial or technical, is the basis of power now and will be in the forseeable future.

The basis of farmer affluence in the past decade or so has been the capitalisation in land values resulting from the multitude of Government interventions to stimulate and give confidence to the export-earning capacity of our farming industry. The political structures farmers evolved were designed to protect and promote those interventions, especially the measures related to foreign exchange-earning.

The new generation of New Zealanders have discovered new Meccas in Sydney, Hong Kong, New York and London. Sydney is closer, cheaper and more convenient to fly to than Invercargill for most New Zealanders. Wellington may still be important to some politicians but it is of little significance to the new foreign exchange generators situated in Auckland. The farmer political machine will need to adapt rapidly to the new priorities which dictate political thinking.

Nowhere in the world does any industry of any significance survive without political investment. Speculative investment for quick profits is still in vogue. New Zealanders investment horizons show no signs of retreating back to Aoteoroa. The modest returns which agriculture can promise are unlikely to appeal in the immediate future while other more remunerative alternatives exist.

Many farmers, where they are financially able, have adjusted to this new lower plateau of prices and values. The longer the new regime continues, the greater the difference between standards of living, aspirations and achievements will become. The success of New Zealand farming in the past has been achieved because of the quality of the people engaged in it. If farming as a vocation cannot compete on equal terms with other avenues of endeavour, offering the same rewards and intellectual challenge, it will decelerate at an alarming rate.

The whole purpose of any political body is to intercede and intervene on behalf of its membership. The current craze of 'look Mum no hands' has been a refreshing change from the straightjacket suffocation of the past. Yet a firm grip of the handlebars is called for if New Zealand is to get back on course and become a significant rather than a passive member of this new Australasian community to which we are now inextricably committed.

Agricultural politics can be a significant contributor and we hope they will. But they must also adjust, and adjust very rapidly, to their greatly eroded power base and declining rural equity, and realise their potential in the total Australasian farmer lobby.

Chapter 19

Government and the Farmer

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Government Intervention 1880s - 1960s

There is a long history of Government intervention in New Zealand agriculture. From the earliest colonial days, agriculture was the principal activity of the new settlers, and Governments were committed to allocating unused land, encouraging settlement and building up trade. The advent of refrigerated transport in 1881 transformed this simple colonial settlement activity into a national, trade-oriented growth objective. From that date it became clear that future growth of the economy and the prosperity of the people would be aided by building a strong agricultural base geared to the export of refrigerated commodities. The United Kingdom provided a virtually guaranteed market for New Zealand exports right up to 1973, when its entry into the EEC put an end to its free trade policy developed after the repeal of the Corn Laws in 1846.

From the last century, therefore, there was active Government intervention in agriculture. Government enacted measures to break up large estates built up in the colonial era; it encouraged immigration and settlement to develop new areas (such as the Ninety Mile Bush in southern Hawke's Bay); it built up the railways, roads and ports system; it established large soldier settlement schemes after both the world wars; and it established excellent advisory services to see that scientific advances were available at no cost to the livestock farmers.

The Great Depression was a major shock to this export-led growth philosophy. In 1932, the United Kingdom partially abandoned its free trade position as far as New Zealand was concerned and introduced Commonwealth Preference. World demand for primary products was severely depressed, and the impact on New Zealand was exaggerated by the long transport distances involved. The newly-elected Labour Government therefore changed its stance on export-led development in 1936. Protection of industry and import licensing were introduced to provide some insulation from world economic trends, and to encourage national growth from an industrial rather than an agricultural base. Henceforth, the growth strategy had dual objectives: the pastoral sector continued to be encouraged to provide the export earnings the country needed for its further development while the emerging and protected industrial sector was intended to provide for internal growth and full employment.

The early 1960s called for a major review of the overall growth strategy. National growth was not reaching expectations and the country was beset by recurrent balance of payments difficulties induced by fluctuations in export earnings and high import demands. The resolution of these problems was seen to lie in greater export encouragement and diversification. Pastoral agriculture was to be assisted by input subsidies and concessionary development loans; manufacturing exports were to be encouraged by a system of incentives based on tax rebates. In effect, growth would once again be export-led, even though many of the existing tariff and licencing procedures were not phased out; the dual economy remained in place.

In the period up to 1984, when the most recent overhaul of the growth strategy took place, the agriculture sector benefited from numerous Government interventions that sought to strengthen the export position of farm producers. This has been the period of greatest direct intervention in farm production decision-making, and is the basis for the rest of this chapter.

The Policy Framework 1963-1984

The concept of export-led growth has dominated agricultural policy for the last 25 years. However, some care is required in using the term 'export-led'. In this context it means that explicit policies were enacted to encourage positive export growth. It does not mean that the overall balance of industry policies favoured the export sector. Indeed, evidence analysed later points to the contrary.

Growth of exports was translated into growth objectives expressed in livestock numbers in the 1960s. The underlying philosophy was that growth in livestock numbers and performance required new investment by farmers, extending the boundaries of improved grassland and taking up new technology. If new investment were to take place, a stable and predictable economic environment was required to encourage producers to make the necessary sacrifices, and see a return for their efforts. In addition, sufficiency of income was also desirable as it was recognised that most new investment came from ploughed-back earnings and not from borrowed capital. It was also recognised that state services could play a large role in this process, and generous provision was made for credit advances, increased research activity and wider agricultural advisory services.

At the same time the requirements of the agricultural sector had to be integrated with the needs of the total economy. While agriculture was thought to have a dominant role in the promotion of export earnings, Government was also concerned with such things as full employment objectives, the growth of national income, and the control of inflation. Clearly, policies introduced for these purposes could potentially conflict with the relatively transparent objective of export growth. Protectionism and inflation, particularly, had adverse impacts on farmers' costs and competitiveness, and hence could have considerable effect on the attainment of the export growth goal.

Policy Developments 1963-84

At the beginning of this period, there were very few direct income transfers from Government to farm producers. There were minor payments to farmers under the Stock Act for compensation and tuberculosis control, a herd testing subsidy, and provision for emergency expenditure as the result of fire, drought or snow storm. Advisory and research services were still provided free by Government. Farm incomes were largely market determined, and farm investment depended on the propensity to invest of individual producers. Research at the time showed this tended to fluctuate with levels of farm income and hence was largely determined by fluctuations in overseas returns for primary products. Internal cost inflation was only two or three percent per year.

The Agricultural Development Conference in 1963 endorsed a plan to greatly increase livestock output in the period to 1971-72 and suggested to Government that additional incentives to farm investment would be justified. Government subsequently introduced an enhanced loan programme for farm development to be administered by the State

Advances Corporation (now the Rural Bank); subsidies on phosphatic fertilisers to encourage their use in hill country development; and a special taxation allowance for approved farm development expenditure (a 100 percent write-off against income). Provision was also made for a standard system of stock valuation, which had the effect of delaying income earned for tax assessment purposes. Finally, a tax equalisation fund, to be administered by the Department of Inland Revenue, was created so that producers could deposit before-tax income in the fund, avoid current tax, and draw on the fund in a later period when perhaps investment needs were greater. These were measures that largely avoided direct income transfers from taxpayers, but which relied on indirect fiscal incentives to bring about the desired national objectives. (Such measures not only lack transparency, but they also are difficult to assess in retrospect in terms of amounts of taxation foregone.)

As the new expansion programme developed in the 1960s, further assistance from Government was sought in particular areas. In 1969, a subsidy was introduced on weedicides and pesticides (an obvious bottleneck in land development); in 1970 came a dairy beef subsidy (to encourage retention of dairy stock for beef); and in 1971, a stock drench subsidy.

In 1971, a sharp fall in overseas sheepmeat prices brought about a further intervention. To protect pastoral farmers' incomes and hence investment, Government provided a grant of $1 per head of sheep retained on farms (at 30 June 1972) as a direct income support measure. The cost of approximately $50 million was to be shared by Government ($35 million) and the Meat Board ($15 million). While overseas prices recovered sharply in the following season and removed any further need for direct assistance, the mechanism was again drawn on in the 1974-75 and 1978-79 seasons. In 1975, $50 million was paid into the Boards' stabilisation accounts ($35 million to the Meat Board and $15 million to the Wool Board) to provide for underpinning of market prices of sheepmeat and wool. In 1979, in response to a massive drought in all the eastern districts of the country, an additional cash payment of $60 million was made available to farmers for maintaining incomes and continuing development programmes.

Such ad hoc response to overseas fluctuations in prices, as well as hardship conditions, led to the introduction, in 1978, of a Government-funded floor price plan for livestock products known as the Supplementary Minimum Prices Scheme (SMPs). This scheme was to be administered by the marketing boards, who were to operate it in conjunction with their own minimum price schemes. Floor prices were to be set at the beginning of the production season, and the marketing

boards could draw on Government funds if board-assisted prices fell below these levels. During the period, 1981-84, the annual cost of this programme exceeded $300 million.

During the mid-1970s and prior to SMPs, Government introduced new legislation dealing with the marketing board minimum price schemes. New Zealand has a long history of intervention in agricultural marketing. National marketing boards were introduced in the 1920s to provide some control over overseas marketing, with individual commodity boards granted differing market powers according to their circumstances. Both the Dairy Board and the Apple and Pear Board have had minimum price schemes operating from the 1930s. These schemes set minimum prices in advance of the season, and trading surpluses were paid into a reserve fund for later payouts if required. The funds were designed to be self-balancing and were funded by the Reserve Bank at one percent interest when in deficit. The New Zealand Meat Board operated a non-balancing floor price scheme prior to 1976, using war-time trading surpluses to fund the scheme. The New Zealand Wool Board operated a similar scheme introduced in 1985.

In 1974, the Government appointed an Advisory Committee (the Zanetti Committee) to investigate the need for greater price stabilisation. The committee reported in 1975 with recommendations to establish a complete financial buffer system for all commodities with basic prices set at the beginning of the season, and replenishment of the buffer accounts funded by levies on producers. The Government adopted the committee's recommendations with some minor variations.

The new arrangements did not materially alter the Dairy Board and Apple and Pear schemes, but introduced a full buffer account system for sheepmeat, beef and wool. The dairy and apple schemes provided a basic price, over which trading surpluses were to be distributed on a 50:50 basis to producers and the reserve account. In the case of meat and wool, the basic price was treated more as a floor price (with specific criteria on how it was to be established), with another higher price, the trigger price, above which surpluses were to be put in reserve. For wool, replenishment was also by way of an annual levy on all wool sales.

In theory, therefore, these price stabilisation schemes were designed to be self-funding and to even out domestic impacts of price fluctuations in world markets. The sole Government contribution was providing continual Reserve Bank support when the stabilisation accounts were in deficit. While charging only one percent interest on overdraft, the funds also received only one percent in credit.

Both the enhanced producer board floor price schemes and the SMPs were adopted by Government to reduce the impact of overseas commodity prices on farmer investment decision-making. Given the ranking of the floor prices, the board floor prices tended to provide a safety net mechanism, while the Government floor prices provided a level of income sufficiency. Both board and Government floor prices were thought to be necessary to sustain the farm income momentum required by the official programme goal to expand exports as fast as possible.

These changes in stabilisation arrangements were in part a response to a falling-off in agricultural growth in the period 1969 to 1975. The period from 1963 to 1968 had been one of unprecedented growth in agricultural output, when favourable terms of trade combined well with the new programme of fiscal incentives. However, despite the commodities boom of 1972-74, growth was not resumed until much later in the 1970s. Hence, throughout the 1970s there was considerable discussion and many proposals made on the need to get agricultural growth going again.

Thus, the Government moved to update the concessionary development loan schemes first introduced in 1965. In 1976 the Livestock Incentive Scheme was introduced. This gave farmers an interest-free loan to expand livestock production which could be written-off if certain targets of stock number increases were reached.

There was also a variant of the scheme which gave tax write-offs if the targets were achieved. Some 14,693 loans were arranged between 1976-77 and 1982-83 with a total value of $144 million. In 1978, the Land Development Encouragement Loan Scheme emerged. This programme gave farmers suspensory loans for land development and improvements and was aimed at bringing readily accessible unimproved land up to its full productive potential. If the farmer carried out his programme satisfactorily any interest accumulated was written-off and only half the loan was made repayable from the fifth year. Some 6,713 loans were made between 1978-79 and 1982-83 at a total value of $152 million.

It is clear that over the period from 1963 to 1984, there was increasing Government intervention in the agricultural sector. From an early reliance on loan schemes and fiscal concessions, the apparatus of intervention slowly built up to include input subsidies, subsidised loans, subsidised stabilisation credits and direct income support. This degree of intervention must be examined against a background of increasing frustration with the earnings derived from the market. The agricultural sector was observed as not quite reaching the production and export targets demanded; a lack of incentives was diagnosed as the reason; and

ad hoc policies were introduced as the cure. Further reflection (in hindsight) would reveal that more direct ways of improving the price of exportables were not feasible for the Governments of the day. Hence, the patchwork of ad hoc policies which eventually resulted. In the early 1980s, the cost of these policies grew very high indeed, and a retreat from interventionism followed soon after the election of a new government in July 1984.

Intervention and Farm Incomes

The national income (SNA) system of accounts provides a reasonable framework in which to analyse the impacts of Government intervention over this period. National income conventions do not provide a framework for assessing indirect measures of assistance (such as tax income foregone), nor do some measures often interpreted as support for agriculture appear as a debit against agriculture (as in the case of fertiliser subsidy which is paid to the manufacturers). However, national accounts do asssess direct price measures of assistance and these include all forms of income supplementation, input subsidies paid directly to farm producers, emergency expenditures, and grants made to producers (such as the herd improvement subsidy). Payments to producers, and levies on producers, for statutory stabilisation schemes are not shown in national income accounts, nor income equalisation payments, and these must be analysed separately. Where Government takes over debts created by statutory stabilisation schemes, then in theory, these should be shown as direct price subsidies.

Trends in gross domestic product (GDP) generated in agriculture are shown in Table 1. GDP is composed of compensation of employees, farm operating surplus, depreciation, and indirect taxes less direct subsidies. Thus operating surplus approximates what farmers actually receive while GDP is a measure of unassisted or unsubsidised factor income (that is, GDP is what the industry earned if SMP's and other direct supplements are excluded). An apparently contradictory situation is shown in that while GDP in agriculture expanded in real terms between 1977-78 and 1985-86 (real income increased by 42 percent), it is declining as a percentage of national GDP.

The policy issue from the 1960s to mid-1980s was one of income adequacy. This was not expressed in terms of incomes comparable with other sectors, or in terms of absolute levels of income, but in terms of new farm investment as shown by trends in livestock aggregates. Thus improvements in GDP, as earned in agricultural production, would be taken as helping to achieve the desired export targets, while a fall-off in

Table 1: **Trends in National Income, Agricultural GDP and Selected Agricultural Subsidies, 1960-84, Gross Domestic Product, current $ m.**

March Year	GDP			Agriculture Operating Surplus	Direct Agricultural Subsidy	Agricultural Subsidies % GDP
	Economy	Agriculture	% Agriculture			
1960-61[a]	2813	410	14.6	289[c]	15[c]	
1965-66	4012	560	13.9	386	19	{4.5
1970-71[b]	5832	590	10.1	395	22	
1975-76	11668	1071	9.2	755	40	{3.5
1980-81	23002	2161	9.4	1450	81	
1981-82	27841	2248	8.1	1643	98	
1982-83	31149	2117	6.8	1611	114	{10.5
1983-84	33967	2413	7.1	1769	120	
1984-85	38729	3542	9.1	2671	131	

Sources:
[a] 1960-61 to 1970-71 "Macro Trends in New Zealand Agriculture 1961-82". M.A.F. Discussion Paper
1960-61 to 1970-71 Consolidated National Accounts. Reserve Bank Research Paper 32. 1981.
[b] 1971-72 to 1984-85 Monthly Abstract of Statistics. November/December 1986.
[c] 1960-61 to 1970-71 "Sector Accounts for Agriculture, 1960/61 to 1972/73." M.A.F. Research Paper 4/76.

GDP earned in agriculture indicated the investment/export plan could be in jeopardy.

In practice, policy makers in Wellington tended to make judgments on these matters in terms of farmer incomes rather than GDP. Table 1 shows trends in 'operating surplus' which is the nearest national income equivalent to 'net farm income'. These data demonstrate that operating surplus is the residual income category when overseas farm receipts move up and down, and hence it tends to fluctuate more than other factor rewards. When policy-makers scrutinise sheep farm and dairy farm income accounts and forecasts, it is these fluctuations and trends they take as indicating the relative need for compensation and/or changes in policy.

There is one further policy instrument available to Government that has not yet been discussed, the exchange rate. While it could be said that the Governments thought of the exchange rate as a measure of last resort, there were times in the period under review when unilateral changes in the exchange rate were used as an instrument of agricultural policy. Devaluations of the New Zealand dollar took place in 1967, 1974, 1975, 1976, 1979 and 1984. Revaluations took place in 1973 (twice) and late in 1976. Between 1979 and 1982, a crawling peg adjustment system for the exchange rate was followed, and this reflected a slow but steady devaluation trend. The GDP and operating surplus income statistics in Table 1, therefore, reflect income trends after the Government had made its policy decisions on the exchange rate. Such decisions were prompted by a number of external factors, of which the domestic value of agricultural exports may not have been the most important in every case. However, once the decision was made, the income flow to agriculture was changed considerably.

Since 1974, the farmer's actual terms of exchange have deteriorated by 25 percent; without exchange rate adjustment the decline would have been 50 percent and farm incomes would have been much lower.

By adjusting the exchange rate in the way it did, the Government was giving a message to producers on the directions it thought desirable in farm policy, i.e., maintaining farm incomes sufficient to provide for investment, primarily in increased livestock numbers, as a way of increasing export growth. As will be seen later, such a policy may not be the right one if it means getting out of alignment with the real returns obtained in world markets, especially if accompanied by heavy fiscal transfers from taxpayers to producers.

Direct income transfers to the agricultural sector are also shown in Table 1. In the 1960s, there were very few of these instruments, and the value of the transfers (agricultural subsidies) was very small, about 0.4-0.5 percent of GDP. In the 1970s, there were a series of ad hoc income transfers, particularly in 1971-72, 1975-76 and 1978-79. This intensified intervention, together with other direct grants amounted to only 3.5 percent of GDP for the decade. In the 1980s, a sharp downturn in overseas commodity prices brought the supplementary minimum price scheme into operation, with consequently much larger transfers of income. Over the first five years of the decade, these transfers averaged 10.5 percent of GDP earned in the sector.

The 1970s also saw a more widespread system of compulsory savings through the producer board stabilisation or price-smoothing system. Arrangements were introduced to smooth meat and wool commodity prices, in addition to the existing schemes for milkfat and apples and pears. Table 2 sets out the net withdrawals from and payments to producers from 1960 to 1985. In the 1960s, there were some significant changes in farm incomes as a result of these provisions - incomes were highly supported in 1960-61 and again in 1966-67. Apples required support in 1965-66. These amounts were self-funding, and withdrawls from the Reserve Bank had to be repaid from subsequent years' export income.

Table 2: **Net Stabilisation Payments in New Zealand Agriculture ($ m. current)**

Seasons	Apples[1]	Dairy[2]	Wool[3]	Beef[4]	Sheepmeat[4]	Total
1960-61	0.3	14.2				14.5
1965-66	1.8	1.0				2.8
1970-71	-0.2	-				-0.2
1975-76	2.2	43.8		33.5	7.1	86.6
1976-77	-10.2	-23.1	-36.0	7.2	-3.6	-65.7
1977-78	-6.3	-0.8	8.0	-	-3.6	-2.7
1978-79	-5.1	25.1	-12.5	-39.7	0.7	-31.5
1979-80	-5.4	-61.3	-17.0	9.5	-	-74.2
1980-81	12.0	-97.0	-9.4	23.3	-	-71.1
1981-82	-11.1	-122.8	9.3	4.5	59.6	-60.5
1982-83	-4.4	-114.2	21.4	-1.9	288.0	188.9
1983-84	-13.6	16.1	-19.9	-5.6	150.4	127.4
1984-85	-8.9	-45.9	-18.9	-0.9	357.7	283.1

Notes: A minus sign means payment by farmers into the account, no sign means a payment to farmers from the account

Sources:

1 N.Z. Apple and Pear Marketing Board, Sept years, Retained earnings.
2 N.Z. Dairy Board, May years, Transfers to and from Reserve Account.
3 N.Z. Wool Board, June years, Minimum Wool Prices Funding Account, Net Change 1976-78 includes Wool Income Retention account ($15 million was paid into the Wool Income Stabilisation Account in 1975).
4 N.Z. Meat Board, Sept years, Meat Income Stabilisation Account Net change, Account established with Government grant of $35 m. in 1975.

In the 1970s, the movement of these funds into agricultural incomes was amplified. Higher contributions to dairy reserves were made in 1971-72, 1976-77 and 1979-80, while large payments were needed in

1975-76 and 1978-79. The Apple and Pear Board added largely to its reserves in this period. The wool and meat payments were funded by Government at the start, but the later years of the decade were characterised by net additions to the reserve accounts.

In the 1986 Budget, the Minister of Finance announced that provision would be made in the Supplementary Estimates for the cost of repaying major producer board debts. This included compensation to the Reserve Bank for the loss of $600 million that it had incurred on a $750 million sub-ordinated loan to the Dairy Board to repay the Board's trading account with the Bank, and compensation to the Reserve Bank for the write-down of $850 million outstanding in the Meat Income Stabilisation Account. In an announcement in February 1987, the Government said that it had been agreed with the Meat Board that the total debt written off would be $1,029 million (presumably the losses of 1985-86 were now coming to account) on the understanding that the Meat Board paid the Government $100 million out of the Meat Industry Reserve Account.

This period concludes with the Government decision to treat the meat industry stabilisation advances in the period 1981-86 as income transfers (straight subsidies) and not loans from the self-funding accounts in the Reserve Bank. Treated in this light, income transfers to the agricultural sector in the period 1981-84 were to a level equal to 30 percent of GDP in 1982-83, and over the first five years of the decade have averaged 14.3 percent of GDP.

Table 3 sets out changes in the balances of the Farm Income Equalisation Account held at the Department of Inland Revenue. Again relatively small amounts of income have been put aside by individual producers over the years. Considerable pressure was placed on farmers to use the account in the 1972-73 season, but otherwise it has remained a voluntary system of saving, with the incentive of tax relief for the amounts put aside. The policy issue in this case is whether farmers would have used the voluntary system more if there had not been collective compulsory systems in place?

Table 3: **Net Payment by Farmers into the Income Equalisation Account ($ m current)**

March years		March years	
1965-66	-1.7	1976-77	-6.7
1966-67	-1.4	1977-78[a]	-11.9
1967-68	-0.6	1978-79	9.2
1968-69	-0.2	1979-80	-10.4
1969-70	-0.8	1980-81	-12.4
1970-71	-1.4	1981-82	7.9
1971-72	-0.4	1982-83	-9.2
1972-73	-4.4	1983-84	-5.4
1973-74	-84.6	1984-85	-3.0
1974-75	50.3	1985-86	-27.7
1975-76	17.8	1986-87[b]	-10.1

Notes: A minus sign means payment by farmers into the account, no sign means a payment to farmers from the account.

[a] From 1977-78 includes interest accumulated at 3 percent.
[b] At 28.2.87 the Account stood at $106,988,000

Source: Department of Inland Revenue (pers.comm.)

Intervention - The Future?

The period from 1960 to 1984 was one of increasing Government involvement with the agricultural sector in New Zealand. The involvement was rationalised around the theme of export-led growth. For most of the period, the growth objectives of increased production and exports were achieved. And yet the experiment has been called an economic and political failure. Why?

In the wider context, the growth of the national economy has been disappointing over the same period. In spite of growth in export income, the inflation rate was deemed excessive, overseas borrowing increased, and budget deficits widened. Generally, the country as well as agriculture, enjoyed a standard of living beyond its income. Subsidies to the export sector were part of the ad hoc policy programme employed

throughout the period. It is therefore plausible to conclude that the general total policy mix was a failure rather than only the particular component that affected agriculture.

Secondly, insulation of the export sector from international trends always carries the risk that world market reality rapidly changes while the domestic economy does not. This appears to have happened after 1980 in the New Zealand case. Consequent drains on Government expenditure then ran into the budget deficit constraint. As has been discussed, accumulated debts in the producer board stabilisation schemes have also been taken over by Government as the likelihood of repayment diminished.

Thirdly, continued intervention has encouraged the build-up of investment in facilities and property which the industry cannot sustain. This applies particularly to land values, debt size and distribution of processing plants and input services. In this sense, such investment was unnecessary in retrospect, and should have been avoided.

Decisions have now been taken to dismantle the system outlined and assessed in this chapter. Input subsidies, subsidised credit, stabilisation accounts and guaranteed floor prices have been discontinued. In addition, financial markets have been decontrolled and the exchange rate floated. These changes represent a new policy approach to agriculture in New Zealand. The outcome is greater exposure to market forces, fewer inbuilt collective stabilisation measures and greater exposure to individual risk. Emphasis increasingly lies on the individual producer to make his/her own arrangements with regard to risk management and stablisation of income. The behaviour of exchange rates and interest rates has become critical to the agricultural sector's future prosperity. At this stage of the experience, the indications are for a tighter, leaner, and smaller agricultural sector in the total economy. As such it will be able to respond more readily to world market prices, and, with increased efficiency and flexibility will develop new mechanisms to deal with change.

Chapter 20

Regulation

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Agriculture in New Zealand has been one of the most regulated sectors of the economy and this is very much the norm for the developed countries of the world. Why? Part of the answer lies in the need to protect consumers from food products that might be injurious to their health. But that applies to only a few of the multitude of regulations that governments use. Most of them have been initiated and justified on economic, rather than health, grounds.

The explanation for these regulatory controls can be found in two major attributes of agriculture in developed countries. Firstly, agriculture tended to lag behind the rest of the economy during the process of industrialisation. Interventions were then undertaken to alleviate the resulting relative depression of agriculture. These interventions often led to overproduction, which in turn had to be countered by further interventions.

The second major explanation arises from the form of the industry itself. It has little or no possibility of controlling its own production levels, prices, qualities, marketing and research, without some kind of regulation enacted on its behalf. There are simply too many people involved in farming to make such control practical. In this discussion both regulation and intervention will both carry the connotation of the use of government controls which alter the behaviour of the industry. Here, we will focus only on those interventions imposed domestically for economic ends although there are many regulations within this country and overseas which also affect the farm sectors.

Specific economic regulations for agriculture reached their highest level around the years 1982-84, the climax of a period of almost 20 years of the policy of compensating agriculture for the costs of import protection and of maintaining an over-valued exchange rate.

The interventions in place at the time were bewildering in their variety and number. A reasonably exhaustive listing of them is given in Economic Management, Land Use Issues, published by the Treasury in 1984. There is no need to examine all of them here, but a list of the main varieties together with the more significant examples of each, will give some indication of their nature and extent.

Type of Intervention	Chief Example(s)
Input subsidies	Fertiliser subsidies
	Interest rate concessions
	Irrigation subsidies
	Electricity subsidies
Production subsidies	Supplementary minimum prices
Development schemes	Livestock incentive scheme
	Land development loans
Research and services	MAF health and research
Producer board subsidies	Interest rate concessions
Tax expenditures	Investment allowances
	Export incentives
Industry control	Town milk industry
	Egg industry
Producer board legislation	N.Z. Meat Producer Board
	Dairy Board
	Apple and Pear Board
State ownership	Rural Banking and Finance Corporation

The Treasury's 1984 estimate of the fiscal cost was $547 million in direct subsidies, $230 million in support services, $290 million in revenue foregone, and $20 million in indirect energy subsidies. The total of $1,087 million should be compared with that year's GDP of around $34,000 million, which means that the fiscal cost was 3.2 percent of GDP, a figure which contributed to the substantial budget deficit at the time.

The fiscal cost differs from the real cost to the economy of the likely inefficiency in resource use engendered by interventions on this scale. It was the realisation of these economic losses, both by the Treasury and by the incoming Labour administration in July 1984, that led to the

major policy switch that then took place. Regardless of the efficiency issue, the fiscal cost of the pre-1984 policy was, in any case, unsustainable. Hence in November 1984, the first Roger Douglas Budget contained a swinging attack on these many faceted interventions.

The net effect was to shift the agricultural industry from the most regulated form in its history to a position where it was subject to fewer interventions than had been the case for many decades.

Economists are fond of stressing the efficiency of the market system. They point out that an economy made up of many producers and buyers - so many that none can influence price or cost - will, theoretically, result in a system where no person's welfare can be improved without another person suffering in consequence. This is the ultimate concept of efficiency. The mechanism that ensures this ideal is free exchange through the price system. Hence anything that interferes with prices or transfers will almost certainly lead to something less than maximum attainable welfare. Therefore, the simplistic argument goes, all interventions are bad.

Of course, life is not so simple. In a real economy we can be sure that not all of the economist's assumptions about markets will hold. However, the basic idea of the desirability of non-intervention should not be simply discarded. Even if it is not possible to prove that avoiding interference with the price system is the best course, there appear to be many examples of inefficiencies resulting from interventions.

The ideas which have been briefly expressed here are well covered in a number of economics texts (Stiglitz, 1986 and Varian, 1987). The dangers of intervention were also explained in the Land Use Issues Treasury book (Treasury, 1984), although that gave insufficient attention to the possible cases where intervention can be justified.

With this background we can now examine the regulations and interventions that Governments have used in agriculture, to see the kind of inefficiencies that they appear to have led to. While there is no proof that the outcomes are in fact inefficient, in most cases that seems to be the only realistic conclusion.

Subsidising inputs can lead to the most blatant examples of apparent inefficiency in resource use. In general, the reduction in price to the farmer of particular inputs will lead to their over-use at the expense of others. In addition, because costs are reduced by the amount of the subsidy, there will be a tendency to produce at a higher level of output

than is economically desirable, given the real resource costs of production.

Fertiliser subsidies gave rise to a number of examples of these problems. In part the subsidies were made on the basis of weight, rather than on chemical composition. As a result farmers did not move into using lighter, more potent fertilisers as rapidly as efficiency demanded. Another part of the subsidy was based on transport costs, so that the further the farmer was from the source of fertiliser, the greater was the subsidy component - economic efficiency requires the use of fertiliser to fall as the distance increases, since its full cost includes transport. Thus low cost fertiliser and subsidised transport were part of the reason why marginal land, at a considerable distance from fertiliser sources, remained in production, when the real cost to the economy was greater than the value of its production.

Irrigation subsidies had similar effects, and some development schemes could not be justified if one uses real efficiency arguments. This may be illustrated by research done on the Amuri Plains scheme (Greer, 1984), where the difference between the return to the farmers and the economy was estimated to be 23 percent. The absolute level of the return to the economy, which was estimated to be 9.77 percent, also shows that the scheme should not have gone ahead if real efficiency was the aim, since this fell below Treasury's 10 percent guideline for investment (assuming this guideline to be correct).

A more important example of the problems raised by input subsidies can be seen in some of the effects of low interest rates for farmers. The resulting increased demand for farm land was in part cause of its over-valuation in the early 1980s, to levels of the order of twice those which could be justified by earnings (Taylor and Davison, 1986). It also helped lead to over-investment in machinery and land development during the same period. The combination of these two effects became one of the main causes of the financial difficulties of farmers in the mid-1980s, as land prices fell to sustainable levels and interest rate subsidies were reduced.

Similar problems can be seen in the Livestock Incentive Scheme and the Land Development Encouragement Loans. The former led to the increase in stocks of specific types of livestock at a time when it was becoming ever more difficult to sell the meat they produced and when diversification of farming was becoming more and more important for its continuing viability. Thus the scheme worked in exactly the reverse direction from that required. The Land Development Loans, in like fashion, encouraged the development of marginal land at precisely the

time when falling product prices meant that marginal land should instead have been taken out of production.

A final example of the problems raised by intervention can be seen in the use of Supplementary Minimum Prices (SMPs) to subsidise some outputs. To the large sums of money involved in these subsidies should also be added the cost of those occasions when the government wrote off the accumulated losses on the Meat Industry Stabilization Account. The effect of this latter move was essentially the same as that of SMPs. Both activities resulted in producers receiving more for those commodities covered by the schemes than their value in the market. Consequently increased production of these products occurred at a time when market prices were already very low. A second consequence was that these subsidies countered the market-led pressure to diversify into other products. Hence the intended incentive for the production of one product became a very efficient disincentive to produce others.

A third effect of SMPs was the overseas reaction and the imposition of countervailing duties in the United States. While this is not an example of economic inefficiency resulting from intervention, it is still important as an indication of the fact that interventions cause changes in behaviour which are frequently undesirable.

Given all these examples of the problems caused by regulation and intervention, the question must be asked as to why New Zealand governments set up these numerous programmes? It would be good to be able to answer that it was for satisfactory economic reasons. However, it is more likely that it was a combination of an ill-directed attempt at tariff compensation, a certain amount of vote buying, and a belief that the government was able to foresee the future better than the industry. In the case of the latter motivation, the downturn in traditional commodity prices may have been believed to be temporary, with future movements likely to show an improvement. This belief may have then led to the introduction of input subsidies, output subsidies and development schemes in order to halt the decline in production that might otherwise have taken place.

The danger of a government trying to outguess the market is well illustrated by the fact that prices continued to fall. This meant that the increase of some production and the reduction of actual farming diversification that followed the use of these schemes was exactly the opposite to what the industry required for efficiency. This activity is sometimes referred to as the problem of the Government picking winners. It is a problem because most Governments are not well placed

to make commercial predictions since they tend to be isolated from the market signals. Hence winners most frequently turn out to be losers.

Given all these reservations about the costs of interventions and about their motivation, can there be any economic justifications for them? There are two main matters to be examined.

The principle that intervention is bad is no longer correct when the full set of economists' assumptions, required for the existence of maximum welfare through open competition, do not all hold. When there is a breakdown in these assumptions, a compensating intervention may be required in order to achieve the second best outcome. But it is always better to remove the breakdown in the competitive system if possible, rather than trying to compensate for its effects. If removal is not possible, then the greatest care is required to ensure that the intervention used does not cause more inefficiency than it cures.

Can any of the interventions in agriculture be justified as appropriate compensations? Although there are a few specific instances which may be interpreted in this way, the great bulk of the interventions cannot be. The closest one can get to an economically acceptable justification for them in general is as a compensation for the inefficiency in resource use resulting from import protection. If this was the aim of the subsidisation policies, then they were not well targeted. For example, a more attractive possibility might have been to give identical subsidies to all exporters. Differentiating between products, as SMPs did, caused producers to make incorrect choices of output mixes, contrary to what the markets were indicating. A second approach could have been to subsidise either all inputs, to reduce costs of the whole sector, or else to subsidize the specific inputs which suffered from price excesses due to the protection regime. The specific, and differential, set of input subsidies which were in fact used did not work in that way.

In any case, a better policy than carefully calculated compensation is one of removing the need for the compensation, where this is possible. In this case it would have meant the removal of import protection. This was both possible and would clearly have been more advantageous to the New Zealand economy than any set of output or input subsidies.

What situations are there where compensation is required, because the breakdown of the competitive assumptions cannot be overcome? In fact there are many instances of problems of this nature, although their relevance to actual intervention in agriculture may not be great. Two will be considered here: those of public goods and of externalities.

Public goods are commodities where the cost of excluding someone from consuming them is very large and/or where the cost of adding another consumer is very small. Such goods and services are under-provided by a market based system. The chief example in agriculture is expenditure on research and development. Individual farmers are usually not willing to pay for research, since the results will become known to all and everyone will benefit at the individual's expense. Alternatively, a case can be made that once research is done it should be made available to all, since costs of publication tend to be low.

For both these reasons, allowing individual farmers to fund research without any form of intervention, is likely to lead to little research being undertaken. The solutions to the problem are either that Government fund the research directly, or the industry fund it through compulsory levies on all producers. The latter has better justification in economic terms. What is certainly not wise is to move to a user pays system for research. Agriculture would then fall increasingly behind in the use of technology, and thus become less competitive on the world markets.

Externalities occur whenever the actions of one individual impinge on another. There are a number of instances of such problems in agriculture. Irrigation schemes are good examples and require legislative support to ensure that a joint plan is made for an entire area. A more controversial example concerns the marketing of horticultural products. It is frequently claimed that some producers wait until a new market has been established and then dump sub-standard produce on it, thus damaging the market for others. Indeed, even the initial establishment of a new market may not be feasible unless all potential suppliers jointly fund it. For both these reasons it is argued that there should be compulsory marketing authorities regulating market flows.

The problem with these examples of desirable market regulation and provision of research, is that there is difficulty in avoiding further inefficiencies resulting from the interventions which were used to try and overcome the initial problems. For instance, marketing authorities may prove stultifying to new developments in product lines or marketing techniques. The difficulty is that the removal of the negative effects of competition in markets can well overcome its benefits.

The conclusions are then: firstly, few of the specific interventions used by New Zealand in the agricultural sector recently had sound economic justification and likely led to substantial inefficiency. Secondly, even in those few situations where intervention could have been justified, it is probable that the particular form of intervention chosen often did as much harm as good.

What can be said about the optimal level and kind of economic intervention in agriculture? In the first place it is important to realise that the sooner protection of import substitution industries is removed the better off the whole economy will be. Import licencing and tariffs should both be eliminated. This would ensure that resources are used in the import substitute and export industries so as to maximise growth and job opportunities. In addition, a reduction in the size of the fiscal deficit would reduce the likelihood of the exchange rate overshooting its equilibrium value for any substantial period of time. With both these policy changes in place, exporters would face a neutral trade environment and there would be no need for the Government to undertake any compensation of agriculture for the costs imposed by protection.

It goes without saying that the Government should also not indulge in any attempt to pick winners, but leave this activity to the market place, where it belongs.

One question often raised is whether New Zealand should adopt agricultural subsidies, given that they are so widely used by her trading partners. The answer to this is clearly 'No'. Either the other countries will continue to support their agricultural sectors, in which case this is simply a part of the trading environment in which New Zealand must operate; or, alternatively they will reduce the level of support in due course. Such a reduction may be predicted by the agricultural sector itself in this country, which will lead it to take the appropriate action. If the Government's predictions differ from those of the sector and if it were then to use interventions to attempt to alter the latter's behaviour, it would have fallen into the winner picking role again, with all its attendant dangers.

The conclusion, therefore, is that there should be no use of interventions unless these are very specifically related to particular competitive failures. Even in these cases the aim should always be to attempt to mirror the working of the market.

Problems raised by externalities should be resolved only by those directly involved, whenever possible. However, legislative support should be given to situations where group action and decisions are required. The arrangements should be such that the control remains in the hands of those affected by the decisions. Yet safeguards are also required to ensure that the group is not placed in a position to nullify valuable competitive pressure from individuals either in the group or outside. In other words, the group must not become simply a protected environment which is used to kill competition.

There is often a fine line to be drawn in establishing controls. For example, giving an organisation incentives to develop a market does indeed lessen the danger of its under-development, yet those development rights also remove the fear of competition and so could make the agency likely to be less innovative in the longer run.

In the case of public goods a similar approach should be adopted. Rather than the Government itself determining the extent of research and the matters to be investigated, why not leave it to industry control, while at the same time providing legislative support to overcome the public good aspect of research? The Australian system of funding agricultural research is a good model. Compulsory levies can be set on all producers, the extent being determined by the industry. They need to be compulsory to overcome the problem of producers free riding on the research results, without contributing to their cost. The determination of matters to be researched could be under the joint control of industry nominees and a panel of scientific experts, to ensure both that the research is targeted to the industry's short and long term needs and that it is has satisfactory and broadly applicable scientific content.

The intervention scene is much different today. All that remains is minimal legislation to allow the industry itself to overcome the problems created by market failure, together with certain health and hygiene regulations which, of course, are not strictly economic in intent.

This situation may appear as unfavourable to the welfare of farmers. That would not be the case if the Government had also provided a neutral trade environment. It would certainly be to the benefit of the country as a whole if such a policy were pursued. Farmers might gain in the short run by interventions. However, even they would be likely to gain more in the long run from the extra growth engendered by trade neutrality. Trade neutrality is both a practical and realistic policy aim. It would be better than even the best-planned set of compensating interventions. It would also be far better than the badly-planned set that were actually used in New Zealand in the early 1980s.

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Chapter 21

Let's Return to the 1950's

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The Reserve Bank and Treasury provide the theoretical justifications for the present Government's economic policies of 'deregulation', the popular name for which is Rogernomics. This is really a misleading term, because it places too much responsibility for the policies on the present Minister of Finance.

In fact the policies carried out by the New Zealand Administration are at present implemented worldwide under the name of 'Liberalisation'. The Reserve Bank and Treasury, which have strong international connections both through their research departments and through their daily contact with international financial institutions such as the International Monetary Fund and international banking institutions in general, are the most competent theoretical expounders of the policies of 'liberalisation', which is the acknowledged policy of international financial institutions.

Indeed Mr Douglas himself at the New Zealand Society of Accountant's luncheon on 26 November, 1986, said:

> The measures we have taken are in line with recommendations made by the OECD and the IMF.

Therefore it can be assumed that an article in the December 1986 Reserve Bank Bulletin (RBNZ, 1986) on the theoretical case for Liberalisation can be taken as outlining the official theory behind

Rogernomics. The article starts with acknowledging the negative effects which liberalisation has had on employment and growth in New Zealand. It then turns to assert that the removal of all protective devices will in the end have a favourable effect on employment and output.

But why should liberalistaion increase absolute growth figures and remove unemployment in conditions of international payments equilibrium and stable prices? And that is what we are after.

The Reserve Bank argues that the benefits of free trade (liberalisation) can be appraised by 'looking at a simple hypothetical economy, with one sector which produces an export good and one which produces an import competing good'.

The absurdity of taking an economy with one export and one import competing good, without even specifying if these are industrial, agricultural or service outputs, is beyond belief. Obviously, if one starts to base logical (behaviour) consequences on so unrealistic a model, one must obtain false predictions.

The fallacious reasoning is made worse if the behaviour assumptions which are superimposed on this inadequate model are as undefined and in fact as false as the underlying two-sector model itself. The Reserve Bank authors make such false behaviour assumptions:

> If a tariff is imposed on the imported good the domestic increases and resources flow into the import competing sector, increasing output and jobs.

Due to the economies of scale and the process of 'learning by doing' the proposition that prices of import protected goods increase is in a great number of cases false. For instance truck tyres made in New Zealand under heavy import license protection fell from a price of $NZ78.15 in 1951 to $NZ66.15 in 1971; refrigerators, similarly protected, fell from a price of $NZ250 in 1954 to $NZ190 in 1971. (Rosenberg, 1972).

The authors of the Reserve Bank theoretical justification of liberalisation, after having made these false assumptions, continue:

> The impact on the export sector is, however, quite clearly negative.

For one thing the authors do not say that the negative effects on the export sector, even if they did exist, outweigh the positive employment

and production creating effects of import controls. Yet this is vital for policy determination.

For another thing the arguments of the authors that the impact on exports is 'quite clearly' negative are based on their naive and grossly over-simplified assumptions concerning the nature of New Zealand export industries. The authors explain the negative effect of import controls and protection by saying:

> to the extent that importables are used as inputs in the production of 'the' export good, exporters' costs will go up and their competitiveness on international markets will fall.

There are inputs into exports which may be exempt from protection, such as fertilisers and heavy farm machinery etc. Of course, if there is only one import good as proposed in the Reserve Bank's silly model, no such discrimination in favour of exporters is possible.

There are other considerations which the authors ignore in terms of 'factors' with absolutely predictable (usually unrealistic) behaviour patterns. When there are thriving regional industries (based on protected full employment as existed in New Zealand from 1938 to 1975) farmers and farm workers can often find work in nearby industries and thus maintain their incomes.

The authors of the Reserve Bank article further assert that the increase in the consumer price index and production costs will lead to a reduction in export profitability and output. The facts of the New Zealand economy are that improved management of farming (and presumably other export industries) can and has compensated for increased costs. Farming output has constantly increased. The point is not that output has not increased, it is rather that it has increased even faster than markets could accommodate our growing production.

The article then produces more unrealistic and indeed false arguments. If exports are subsidised, it says, in order to compensate exporters this 'would lower the profitability of the import competing sector'. The only reason given for this statement is that the subsidy 'would be raised from the import competing sector'. In the real world of New Zealand life this is not necessarily the case at all. But the Reserve Bank authors, having first assumed that New Zealand had only two industrial sectors, producing only two goods, must then assume that any Government revenue used to assist exporters must come from importers. Even then no reference is ever made to the question of: to

what extent the required subsidies are greater or smaller than the growth of income and production admittedly created by import controls.

Instead the article expands on the question of how difficult it is to measure these relative costs and benefits. That economic phenomena are complex and their analysis presents difficulties should be no reason to abandon policies which clearly increase employment and thus the welfare of the community.

The authors then make a further jump. They assert that, after production has been abandoned, 'free trade will lead to an efficient allocation of resources which will maximise income'. Seeing all around them decline and rising unemployment in the wake of liberalisation - be it here, in Australia or Latin America - even the authors of the Reserve Bank theory on liberalisation do not tell us that the process will bring full employment immediately.

> While the standard theory predicts that free trade will maximise income, it needs to be noted that this is a proposition about the long run outcome, when all resources can be assumed to be fully employed.

The cat is out of the bag! There is no theory which shows that liberalisation creates full employment, or how it could achieve that miracle. In fact, all 'liberalised' countries suffer from rising (although fluctuating) mass unemployment and all the consequences of crime, social conflict and degeneration which go with this cancer of society.

The only explanation for the liberalisers' optimism is that full employment can be 'assumed'. Indeed the whole theory of free trade is based on consequences of re-allocation of resources in a two-sector economy which is fully employed. No wonder that no State interference is required in the minds of these phantasts for the achievement of full employment. They have assumed it to be there.

The authors of the Reserve Bank article agree that income increases in the wake of liberalisation will not be distributed evenly. But, tell us these well-paid and securely located liberalisers, this is less a source of concern if it is accepted that individual winners and losers are an inevitable outcome of any growth process.

When they come to the costs of 'adjustment' our authors lose their sure touch. Having first established in their own minds to their own satisfaction on the basis of entirely unrealistic assumptions that

liberalisation is 'good', they have now to deal with the actual social costs (catastrophic as they may be) without having their lovely theory to fall back on.

Liberal economic theory is very weak on short-term prediction and analysis. That must be so, because liberal economic theory has no other short-term proposition than that 'what business does in the pursuit of profits is good for the economy' - so everything is left to business. And since business is unplanned and chaotic, speculative and unconcerned with the social consequences of its activities, prediction of the outcome of free trade liberalised economic activities in the macro-field is impossible.

You may just as well try to predict the outcome of a horse race. Sure, the expert punter (economist) is liable to win more often than the layman, but that is only in the short run, in the medium and long run the expert punter (economist) is as much in the dark about the future as the man in the street. But where the economy is planned for full employment, balance of payment equilibrium, growth and reasonable price stability, prediction and control becomes possible, depending on the degree of control society has over its resources.

So, although our Reserve Bank authors assume that there will be full employment in the long run, when they come into the real world they say:

> Job creation is a difficult problem which cannot simply be dismissed by the assumption that somehow resources will all be employed in the long run.

Indeed when they forget about their economic model and refer to the real world their analysis no longer assures us of higher incomes and full employment.

Acknowledging that New Zealand's external debt situation is serious (albeit in gobbledegook language, 'weaning the economy of an excessive reliance on overseas savings') they admit that 'the large interest bill on the accumulated debt must inevitably detract from the economy's potential growth rate for a period'. That leads our authors to reflections on the exchange rate which neo-classical economists consider the instrument available to achieve balance of payments equilibrium - although neo-classical authors have no model which includes huge fixed interest payments to foreigners as part of the 'import' industry.

In spite of the fact that liberalised and de-regulated finance has led to a situation in New Zealand, USA and Australia where, in spite of enormous balance of payments deficits, the exchange rate refuses to devalue, Reserve Bank authors assert:

> In the longer run, theory suggests the real exchange rate can be expected to adjust to ensure that the right level of resources are channelled into the traded goods sector to maintain internal and external balance.

So, again, 'in the long run', when we are all dead, things 'can be expected' to work themselves out, but, the authors agree 'in the short run the exchange factor may be unfavourable'. So the exchange rate 'instrument' does not work. Our authors then fall back on the popular pastime of trying to blame unemployment on the wage earner.

By this time their 'model' no longer gives certain answers.

> While there is considerable debate about the degree to which real wages are related to employment there is a widespread consensus that some reasonably strong relationship does exist.

However, wage levels are easy and popular targets for liberalising economists, who essentially serve business interests ('supply side economics'), that there is a clear undertone that wages must be reduced in the 'adjustment process'.

Since the adjustment process has now been revealed as a process towards permanent unemployment with no certainty as to the balance of payments and the exchange rate, there is little left of the optimism of the first part of the article which promised us 'maximised income and long-term full employment'. It was a mirage. The thirst traveller remains thirsty, once the mirage has disappeared.

There is a last view into the future: showing that the manufacturing labour force in New Zealand between 1974-84 has fallen by only 1.3 percent (while Australia's has fallen by 22.8 percent, Britain's by 29.3 percent, the USA had no change, and Japan rose about 1 percent).

Our authors conclude:

> New Zealand has tended to lag behind developments in the industrialised countries: ongoing protection has meant that a disproportionate share of resources has been devoted to producing goods.

The Reserve Bank's remedy for unemployment: let's all become futures traders, accountants and corporate, not to speak of criminal, lawyers.

> The proportion of labour employed in services in New Zealand is well to the lower end of the international range. This would tend to suggest that there is still further scope for growth in the absolute and relative size of the services sector.

In my book 'The Magic Square, What every New Zealander should know about Rogernomics', I have explained that the free market economy cannot achieve full employment, balance of payments equilibrium, growth and price stability (the four sides of the Square) simultaneously without using at least four different instruments of control and regulation.

The Reserve Bank article clearly shows the inadequacy of the alternative analysis. Indeed it implicitly foreshadows the instability and social conflict into which we must move if our ship of State is commanded by people who think they can navigate the stormy seas of national and international social and economic development in a drifting de-regulated ship without a chart.

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Chapter 22

Farmer Politics

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One can never be too far separated from politics and government no matter how much one decries the intervention of politicians in agricultural policy. From the early recorded minutes of the New Zealand Farmers Union it is evident that the farm sector sought freedom to operate to best advantage. It adopted a virtual doctrinaire stance against any form of tariffs on imported inputs.

However, at the same time, as today, they looked to Government to resolve most of their problems and provide the network of services necessary for a fast-developing industry. They sought assistance for market access, communications, law and order, a land registration system, technical and scientific advice, research, education, transport, land settlement, finance, climatic disaster relief, and trade concessions for their products.

In a young country where foreign exchange earnings were a major determinant of living standards, farming occupied the centre stage as the industry that 'brought home the rent'. It is little wonder that farmers, although they professed strenuous independence, were often labelled 'socialists in riding breeches'. Nor was it considered, necessarily, that consistency was to be counted a virtuous characteristic. In the early 1960's Government was asked to deal with the threat to agriculture of opossums. The annual conference resolved that 'as Government was responsible for the introduction of opossums to New Zealand it must be financially liable for their destruction'! The resolution was carried unanimously and it was demanded that it be conveyed to Government

forthwith! Meanwhile, some research into the topic had shown clearly that an earlier Government had agreed to the introduction of opossums only after the Farmers Union, around 1919, had pleaded with it to do so to help farmers offset the falls in income from traditional products. The resolution was discreetly buried.

Government intervention in the New Zealand farm sector has always been considerable regardless of the political party in power. It is true that between the main farm industries there have been important differences. For example the decisions taken in 1936 set the dairy industry on a path much closer to Government than, say, the sheep-beef producers. But although there were initially some wide gaps between these two industries they narrowed during World War II and in the post-war era. The main differences were in the organisation of the processing of the products and in their marketing. Nevertheless Government remained very involved in both industries. If an analysis were carried out of resolutions adopted by farmers' pressure groups one would likely find around 80 percent of the resolutions destined to end up on the desk of a Cabinet Minister or the Permanent Head of a Government department. The cries of 'Less Government in business' were hardly applicable to farming. Participants in agriculture wanted to be able to hold the hand of Government in a multitude of ways. They believed that what was good for agriculture was good for New Zealand. Even the most extreme 'free enterpriser' farmers had little hesitation in approaching Government for a solution to their problems.

However, the closeness of farming and Government on most matters did not prevent farmers from disagreeing, at times strongly, with policies adopted by Government. For instance, following the imposition of across-the-board import controls in 1938 the farm sector expressed its fears on the impact on costs of its inputs. It was saved by the onset of World War II, and the prosperity enjoyed by the farm sector in the period of almost 20 years following the war further obscured the real effects of the controls. It was not until the latter half of the 1960s that the farm sector really became alarmed at the impact on their costs of the autarchic policies being pursued by both political parties.

By the early 1970s internal inflation reached double-digit levels and sheep farm incomes were reducing significantly in real terms, while levels of farm investment were not recovering sufficiently, despite a mass of Government incentives introduced after the Agricultural Development planning exercise. The farm lobby made a valiant attack on industrial protection and indications were that at long last a break-through would be made. The then Government, which had a large number of farmer cabinet ministers out of all proportion to their numbers in the

community, stated in its 1971 Budget that 'It is the Government's policy to replace import licensing by tariffs as the main measure of protection. The Government has now decided to institute a major review designed to accomplish this objective within 5 years.....'

In the early 1970s the farm sector came close to achieving its goal of liberalising New Zealand's industrial protectionist policies. But the manufacturing lobby once again showed they could outwit and out-manoeuvre the farmers. Confronted by a sophisticated campaign on the part of shrewd and determined industrialists the farmers' efforts withered.

The Government's plan to replace import licensing by tariffs was again laid aside and the agricultural sector continued to endure the consequences of industrial protectionism. A message was clearly but obliquely conveyed to New Zealand's general-purpose farm organisation, that it should ease up on its hard-hitting attacks on the protected manufacturing sector.

After the relatively short-lived world-wide commodity boom in 1973 the problems of the New Zealand's sheep-beef sector worsened. In 1976 Government said, 'It is clear that farm support policies such as we have had in the past while maintaining the farmer in business, have been unsuccessful in stimulating increased production'. The 1976 Budget contained a decision to introduce the Livestock Incentive Scheme. Just two years later the Supplementary Minimum Price Scheme (SMPs) was born. Its introduction was to be 'no more than an interim measure. For the longer term Government said it was 'prepared to discuss changes in the present price-smoothing arrangements with the producer boards'. However, the SMPs had a stronger desire to survive than the then Minister of Finance had contemplated. They were not killed off until the conclusion of the 1984/85 season - seven years later.

If the farmers were becoming increasingly in need of more Government subsidies their clamour for a more realistic exchange rate was not so evident, certainly prior to 1984. In 1948, when the New Zealand pound was revalued upwards by 25 percent, largely on the insistence of the then President of the Federation of Labour, there was only a murmur from the farm sector. During subsequent changes in the New Zealand exchange rate the farm lobby was again not vocal. Indeed it appeared that again many of the older farm leaders recalled the devaluations of the 1930s. They believed that the farm sector was 'blamed' for bringing these about and had incurred a great deal of hostility from other sectors. One prominent leader once said to me, 'After that experience I shall never again advocate a fall in the exchange

rate on behalf of the farm sector'. Many took the view that a change in the exchange rate was an admission of defeat by Government. They were also obsessed by the view that the export sector could not gain from an exchange rate change. They insisted that costs always overtook any short-term increases in receipts.

For its part the Government after 1975 was opposed to a deliberate devaluation of the New Zealand dollar, despite all the evidence that the rate was considerably over-valued. Instead, various subsidies were ladled out to compensate some farmers for the additional costs incurred through having to purchase locally made inputs, and to compensate them for an over-valued exchange rate. Some leaders considered the exchange rate too 'blunt' a weapon. In the memorable words of the then Finance minister, 'A devaluation would reward exporters such as kiwi-fruit growers who are already receiving good prices'! As a result many industries, including new ones with considerable export potential, were denied some of the incentives given traditional products. This use of subsidies was tantamount to a differential exchange rate, or a system of multiple exchange rates. The reaction of an outstanding young hill country farmer perhaps typified the understandable response of many farmers: 'I have long believed that goat farming was more appropriate for my land but I delayed switching to goats while Government was so generous in handing out subsidies for sheep production'.

By the 1984 Election the farm lobby had formulated an exchange rate policy. It asked for the establishment of a realistic exchange rate incorporated with a package of policies to obtain the maximum economic benefits from the movement in exchange rate. It encouraged the continued adjustment of the exchange rate to reflect the value of the New Zealand dollar through the adoption of a managed float exchange rate policy exercised through the Reserve Bank buying and selling exchange.

Government adjusted the New Zealand exchange rate downwards on 20 July 1984. This pleased the farm sector but the subsequent decision announced on 5 March, 1985 to float the New Zealand dollar has not generally proved helpful to the farming export sector.

Government's decision in 1984 to discontinue various farming subsidies was accepted by the farm lobby. However, because of the appreciation of the New Zealand dollar, it has had a traumatic impact on farm incomes and investment at a time when world prices for many of our major agricultural commodities have declined. In May 1986, farmers were told by the Prime Minister that 'no longer could it be said that a collapse of the farm industry would bring about a collapse of the New Zealand economy'. Few who heard these words would ever have

believed they would have application to this country. If the contention is valid, it represents explicit recognition of a major turning point in the role of farming in the New Zealand economy.

If we look back at the Budgets in the post-war period we see that almost all of them emphasised the key role of the farm sector which was inextricably linked to Government economic policy-making. If an enquiry were conducted into why the industry today finds itself in such an unsatisfactory position, past Governments and their policies would have to bear a large portion of the blame.

But recriminations are unproductive. We must look ahead and consider some of the conditions under which agriculture can again prosper. For what it's worth the following paragraphs provide a 'shopping list'.

It is often alleged that the farm sector is one of our most disunited industries. When it is realised that there really is no such person as 'The Farmer' the reason for disunity is understandable. After all, there are really a whole range of different types of farmers; the Southland lamb producer, the Canterbury arable farmer, the Central Plateau hill country farmer, the Taranaki dairy farmer, and so on. Then there are farms of widely varying size and farmers of different ages. Given such differences it is perhaps remarkable that any agreement in policy has been achieved. But compared with other sectors there are massive differences not only in the situation but also the outlook of farmers. Opponents are fast to seize on these differences. Ranks must be closed if the sector is to survive the threats to its future.

Many industries, trades and professions comprise the vital sector that has the responsibility of servicing farmers and farming. Some of these are efficient; others are not. No doubt increased competition will raise standards, although inadequate demand on some areas could have the reverse effect. However, at Lincoln and Massey increased emphasis is being placed on raising the efficiency of the agribusiness sector which many graduates are likely to join.

In the centres which process and transport farm output there appears to be evidence of shortcomings in efficiency. The decline of regulation and the increased competitiveness in the freezing industry should effect great improvements.

Modern management techniques have been used with success in firms in the industrial sector and there is scope for a greater transfer of these concepts, techniques and principles to the farm sector. For example, in

the control and development of the key human resource factor, some agricultural sectors are 'light' years behind modern management standards. If the farm sector wants to achieve greater success both in the farming firms or its own producer organisations it will have to be prepared to accept and adopt modern management principles.

If the leaders of New Zealand's farm organisations are to be more effective they should have the assistance of a first-class economic analysis team. This group would be concerned not only with research on immediate problems but also issues on or beyond the horizon.

Meanwhile the accounts of our general-purpose farm organisation who set the expenditures on research for the years 1983, 1984 and 1985 as $6,248, $1,607 and $11,713 respectively, showed a total of only $19,568 in three years or 0.7 percent of the amount brought in by the 'all farmer' levy. That amount spent on research could hardly be expected to yield any shattering findings.

In a more market environment is the need for stabilisation schemes greater or less? One might think it has now increased, but I detect a reduction in farmer desire for such arrangements, at least in their present form.

Government played a major role in assisting and persuading the farm sector to establish the stabilisation arrangements. Perhaps the time has now arrived for the farm sector to evolve its own arrangements? It is also possible that individually-based schemes structured on the income-equalisation concept should be given more encouragement.

Since the Government's market measures were introduced, agricultural economists have pleaded for a more neutral environment for the industry. It has a virtually incontrovertible case for such treatment. This is the goal that the farm sector should adopt.

Is it now time for the establishment of something akin to a 'Subsidies Commission'? This body could have the task of assessing and revealing the extent of subsidisation and its incidence in the main sectors in the total economy. It would have to be completely independent of Government and, like the Judiciary, be able to give its judgement fearlessly. If the farm sector is to operate on a relatively fair basis in the future it must seek this type of neutral environment.

The crisis through which the farm sector has been passing over the last year has revealed several deficiencies, including the financial business management of many farms. The more-market environment in

the future will demand that farmers spread their risks much more than in the past. This will require a dramatic reappraisal of some of their long established practices in financial management. The universities and extension authorities must assist the industry urgently to meet the new financial situation confronting farmers.

It is acknowledged that our farmers have achieved enormous advances in terms of technical production achievement. They are very successful in producing meat, wool, dairy products, etc., of high quality and expanding quantities. Regrettably this has not been paralleled by advances in areas such as sophisticated leadership skills, marketing and agribusiness.

In 1978 I decided that a special scheme should be launched to develop leadership skills in future rural leaders. Thanks to a philanthropic U.S. Foundation (Kellogg) a leadership training scheme was begun at Lincoln College in 1979. Appropriately Mr W.K. Kellogg's intention when he set up the Foundation was 'to help people to help themselves'.

So far more than 200 rural men and women have undergone the main course at Lincoln College and an even greater number have taken part in the mini-leadership courses held in rural districts throughout New Zealand. Already Kellogg Scholars are taking an increasingly influential role in leading rural-based organisations in the country.

Within the ranks of the New Zealand farm sector are some of the most effective entrepreneurs in this or any other country. Past efforts by the Government to seduce them with subsidies has not, fortunately, done irreparable harm. They will flourish in a more market environment. But we have to ensure that the innovative and risk-taking qualities of the minority are spread to the majority of farmers. More effective leadership in the rural sector will help achieve this crucial aim.

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Chapter 23

What Course New Zealand's Tariff Policy?

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During the Great Depression, New Zealand introduced a policy of high import protection. That protection had two elements: import licensing and tariffs. This 'beggar thy neighbour' policy was at that time part of a global response to the seemingly hopeless economic environment that existed. An important part of that policy was a programme of high (30-100 percent tax) tariffs on imported items especially for products that were produced here in New Zealand. The import licensing restrictions have begun to be dismantled, but there is no definitive plan to remove high tariffs.

These tariffs, with only minor modifications, have remained in place ever since. Over the last two years there have been some small across the board cuts but the New Zealand tariff remains very high by developed country standards. In fact New Zealand tariffs are typically three to four times their counterparts in the countries of Europe, North America and Asia. Only Australia, amongst developed countries has tariff levels which rival New Zealand's.

The protective effect of the New Zealand Tariff on the manufacturing sector is shown in Figure 1. The bulk of manufacturing production is protected by tariff rates in excess of 30 percent. Forty-five percent of manufacturing activity has tariff protection between 31 and 40 percent, and over 10 percent receives more than 41 percent. This raises an important question of public policy. The Government is committed to reviewing tariffs in 1988 with a view to reducing this form of regulation of the private sector. At least some elements of the Manufacturers

Federation are opposed to this move. The question then is, what should New Zealands' future tariff policy be? Should we opt for a high or low tariff? Should we have a common tariff for all types of imports or a tariff based on the 'needs' of particular industries?

This chapter addresses these questions from a technical view point. In this context one cannot provide a single resolution to the questions. That is clearly beyond the scope of economic science. However, it is possible to point out clearly the trade-offs that exist between the various options, and in so doing attempt to dispell a number of myths that have been created in the tariff debate.

Some Historical Perspective

The customs tariff on imports is one of the oldest forms of regulation by the State with its origins going back into antiquity. The New Zealand tariff was introduced in 1840 and, in common with initial tariffs in other countries, its purpose was to raise revenue to finance the operations of the Colonial Government. In a less organised commercial environment the customs tariff is a relatively efficient form of Government revenue collection. As Government organisation improves, however, the tariff loses its comparative advantage in this taxation role.

It quickly becomes apparent to firms and farmers producing import competing goods that the tariff has great potential to improve their competitive position. This increases the value of the tariff as a tool of industrial development rather than a revenue collecting device. Towards this end import competing interests in New Zealand were successful persuading the Government to raise the tariff to an average tax of around 15 percent in the 1860s and 1890s. The tariff applied to a broad range of products encompassing what we now call the clothing, textile, footwear, metal fabrication, machinery and food-stuffs industries.

What is important, however, is that each of these industries was already flourishing before the tariffs were raised. The tariffs themselves added only modest encouragement to the 'natural' protection afforded import competing activities in the colony by virtue of our distance from overseas sources of supply. In short, transport costs for imports coming to New Zealand provided the greatest stimulus to the development of import-competing manufacturing production (Castle, 1966).

It is also worth noting that New Zealand tariffs at this time were lower than in many other countries, and that the period before and around the turn of the century was our period of maximum growth of import-competing manufacturing.

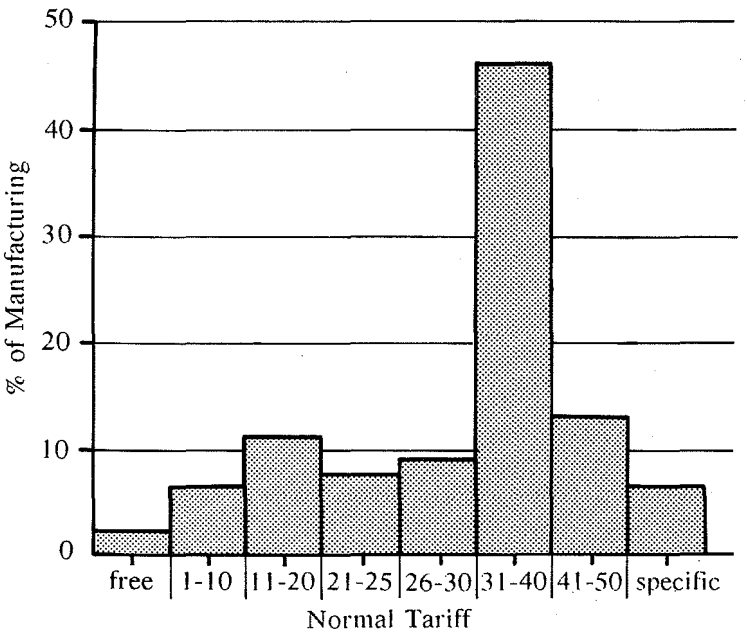


Figure 1: Tariff Rate Breakdown by value of production, 1985

The incidence of the New Zealand tariff did not change significantly until 1934, and the manufacturing sector continued to expand and flourish up to this period. It represented about 20 percent of economic activity and employment in the economy by the 1930s (Hawke,1985).

In 1934, tariffs were raised following the Ottawa conference (1932), and additional support was granted to import competing manufacturing in 1938 when the Government introduced blanket import licencing arrangements. The main stated reasons for these policy moves were in sympathy with isolationist or insulationist sentiments of the time. Import licences were supposed to protect the balance of payments on the one hand and bolster industrial and employment growth of import competing manufacturing on the other. This industrial policy regime remained in place for 45 years.

Analysts examining New Zealand's economic performance have cast considerable doubt on whether import licencing improved the degree of import substitution and the balance of payments. Suffice it to say here

that chronic balance of payment problems persisted, the growth of living standards in New Zealand fell progressively behind those of other developed countries, and, in relative terms, the import competing part of the manufacturing sector (i.e. those industries receiving subsidies through import protection) shrank rather than grew from 1938 to 1981. The whole manufacturing sector remained at 20 percent of total economic activity and employment over the period. This belies the fact that some of the largest manufacturing industries received no tariff protection at all because they were producing mainly exports.

It is not a coincidence that the 45 year experiment with import substitution is coupled with poor job and wealth creation in the protected sectors. A simple economic model would have predicted that outcome. Indeed the theory and actual experience with import substitution policies in a wide range of countries around the world clearly shows the classical tradeoff between growth in employment and living standards on the one hand and tariffs on the other. High tariffs will tend to encourage growth in the industries directly affected at the expense of lower living standards and slower job growth in the community as a whole. There is no free lunch when is comes to tariffs.

But the theory and practice of high tariffs also serve to dispell a number of other myths. In some cases tariffs have proved to be a very inefficient and expensive way of achieving certain community goals. In other instances tariffs can be seemingly perverse and result in the opposite effect to that which was intended.

There is a contrasting view which argues that the high import protection of the 1950's resulted in low rates of unemployment. That view can be questioned on a number of grounds. First, we did not measure true unemployment over those years. What we measured was the number of people (mainly males) who managed to register as unemployed through a somewhat arbitrary, sexist administrative procedure. Second, if import substitution was a solution to employment in the 1960s why wasn't it a solution in the 1970s? Import protection didn't change that dramatically.

A Theory of Tariff Incidence

When a tariff for a particular product is put in place its initial effect is straightforward. The tariff raises the price of imports of that product (actual and potential) by the amount of the tariff, and allows industries in New Zealand producing competing items to raise their prices by a similar amount. The initial reaction of investors and managers in the New Zealand industry is to expand output and increase employment,

because New Zealand industry will find it remunerative to increase its market share, vis a vis imports. Likewise, offshore investors will find it is more profitable, than before the tariff, to establish subsidiaries in New Zealand. The net effect is an increase in investment and jobs in the protected New Zealand industry and an increase in the degree of foreign ownership of the industry. This is demonstrated in figure 2. The diagram portrays the fortunes of the two halves of the tradable sector of the economy (primary, manufacturing). The import protection subsidy pushes the see-saw up on the right hand side transferring income to primary producers and manufacturers protected by tariffs (and/or import licensing).

The extra jobs and wealth are created at the expense of New Zealand consumers or firms who must buy the new higher priced products. That is, pushing on the right hand side automatically pulls the left hand side of the see-saw down. Firms in the export business are made worse off. From 1934-1976 the see-saw was much steeper than is shown in the diagram for circa 1984. Furthermore, it can readily be shown that the extra costs to consumers or users of the items protected by the tariff are greater than the benefits derived by employees and owners of the protected industry involved. This difference can be substantial. In the U.S. and Europe for example, studies have shown that the cost to consumers of creating an additional job in the textile industries by raising tariffs, is of the order of $200,000 to $400,000 per year. Of these amounts, the worker receives only $10 to $20,000 per year in wages. The rest is dissipated in higher margins, Government revenue and profits; it is mostly a net loss of wealth to society in terms of wasted resources. Export sector resources are being exploited and under-valued. The creation of additional jobs is highly desirable. The question is, is the tariff the least cost way of providing jobs?

The consumer (or user) cost of the tariff will usually be spread widely throughout the community. This means that the cost of the tariff to each consumer amounts to only a few dollars per person per year. The benefits of the tariff however, are far more concentrated, amounting to tens of thousands of dollars per additional employee or per firm protected or subsidised. In terms of political lobbying, the balance of political bargaining strength favours the firm which gains rather than the consumers who lose. The reason for this is that the smaller the number of people involved, and the greater the perceived benefits they receive, the cheaper it is to muster lobbying support. For this reason, there appears to be a built in bias towards high and uneven tariffs in a democratic society.

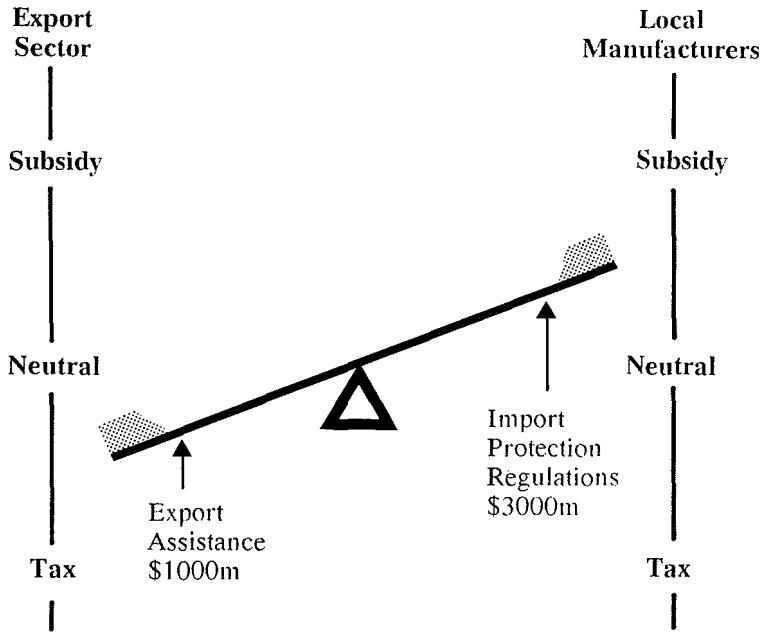
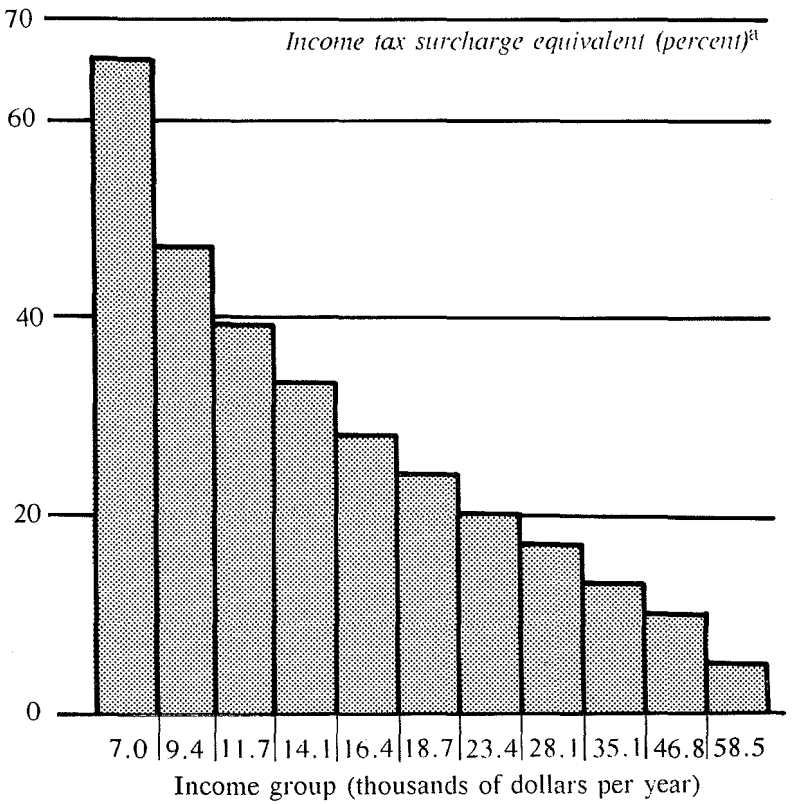


Figure 2: N.Z. Economy, Commercial Operating Environment, 1984

A second important point concerns the distribution of tariff costs amongst consumers. In New Zealand there is some tendency for the highest tariffs to be placed on everyday goods like footwear, clothing, crockery, some foodstuffs, cars and other consumer durables. The cost impact of these highest tariffs will fall most heavily on those segments of society which spend the highest proportion of their budget on these items. It is highly likely that the greatest cost falls on the lower income groups and therefore that the tariff is, in effect, a regressive tax. While this research has not been completed for New Zealand, we can gain some impression from a U.S. study which has a similar tariff structure to our own. Figure 3 shows the impact of the U.S. tariff on people of different incomes, and is measured as if the tariff were a surcharge in income tax. The poorest people in the U.S., earning less than NZ$18,000 pay an income tax surcharge of over 60 percent to pay the tariff. Persons earning over NZ$80,000 per year pay a surcharge of 10 percent or less.

Figure 3: Income tax surcharge equivalent of the cost of tariff protection in the United States, 1984



Note: Income groups are based on the 1972-73 consumer expenditure survey of the U.S. Department of Labour and are adjusted for consumer price inflation in 1984.

[a] Cost of protection as a percentage of income divided by the applicable federal income tax rate.

Source: Hickok 1985

The story for a single item tariff essentially stops at this point. The New Zealand tariff is, however more pervasive than is described above because virtually every industry which must compete with imports receives tariff protection, and most commonly at rates in excess of 30 percent. These protected industries make up at least sixty percent of all manufacturing output and a smaller proportion of primary sector output (Figure 1).

In this broader context it is insufficient to consider simply the gains to firms directly protected by the tariff, and the costs to consumers and other end users of the products involved. This is because wide ranging tariff protection has wide ranging effects which diffuse throughout the whole economy and must be evaluated.

To examine the wide ranging effects of a tariff it is desirable to distinguish between the internationally traded goods sector on the one hand and the non-traded goods sector on the other. The traded goods sector comprises all firms and industries that either produce goods for export and/or must compete with imports. In the economy of today many firms produce both export and import competing products. Many primary, manufacturing and service industries belong to the traded goods sector either as exporters or import competers.

The traded goods sector in New Zealand is smaller than the non-traded good sectors, making up perhaps 40-50 per cent of measured economic activity and paid employment. Furthermore, the export and import competing portions of the traded goods sector employ about the same number of people. This is contrary to popular belief. Export meat works, the carpet industry, some electronic industries, tourism and many other large export oriented manufacturing industries are at least as, (or more) labour intensive than their import competing counterparts. It is also worth reiterating that all manufacturing industries such as clothing, textiles, whitewear, engineering, plastics and furniture have a role in exporting as well as in import competing production, though in part this has been aided by export incentive programmes.

The largest sector of the New Zealand economy produces non (internationally) traded goods and services, and includes large parts of the construction, financial, government and personal services industries. We will use this traded/non-traded classification to examine the pervasive effects of our wide ranging tariff (Figure 4).

The institution of a general tariff initially raises prices in the import competing segment of the traded sector. The combined attempt by these import competing industries to capture higher initial profit margins flows through to the non-traded goods sector in higher resource prices, markups and profits in an observable way. That is, we can actually measure the effects of the changes in import competing prices throughout the non-traded goods sector. In terms of Figure 2, the whole see-saw drops without changing its degree of tilt.

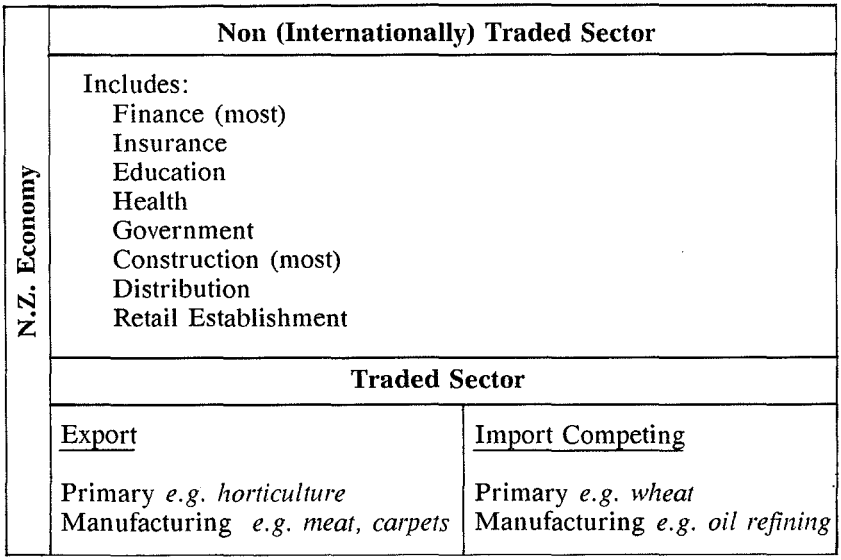


Figure 4: Relative Size of Sectors of the N.Z. Economy (in jobs or income)

This flow-on-effect immediately begins to reduce the benefits of the tariff to the protected industries. This is because the traded goods sector buys the bulk of its inputs from the non-traded sector.

The flow on effect of import competing prices on to the price of non-traded goods has been estimated for a range of countries including New Zealand (Lattimore, 1986). These estimates are similar for different countries and average 70 percent. This means that 70 percent of the increase in import competing product prices is passed on in non-traded goods prices. Another way of expressing this is to say that the internal cost structure of the economy as a whole is raised seven percent for a ten percentage point across the board increase in tariffs. Another way of thinking about it is that the exchange rate rises to accommodate an increase in the tariff.

Lattimore [1986] estimated that the protective effect of existing tariffs and remaining import licencing in New Zealand is equivalent to a tariff of 30 percent. This means that the general cost structure of the economy, in terms of non-traded goods prices, is approximately 20 percent higher than it would be without the tariffs and licencing.

The effect which the tariff has on a firm's cost structure eliminates most of the original benefit of the tariff to an import competing firm. On the surface a firm receiving a 40 percent tariff protection appears to be receiving a very large subsidy, when in fact the firm is probably only receiving 10 percent protection after the higher cost structure is taken into account.

Export oriented firms suffer from the full flow-on effect of tariff protection in their costs. A 30 percent tariff reduces the profitability of producing for export by 20 percent. This is a direct consequence of import protection. As a result tariff protection causes a contraction in production and exports of primary and manufacturing products and services. This is particularly serious because the export market has greater long term potential for growth than the local market simply because the local market is relatively small. The gains from tariff protection in profits and jobs in the import competing sector are thus more than offset by losses in profits and jobs in the export oriented traded goods sector. For this reason it has been shown (Krueger, 1985), that countries adopting import substitution programmes involving high tariffs tend to grow more slowly in terms of jobs and wealth than countries with more open policy stances. New Zealand's economic performance since World War II is a classic case in point.

Tariff Compensation

The framework described in the previous section is also useful in explaining why export oriented firms favour export incentives, SMPs and other subsidies. Such Government interventions in the presence of high tariffs compensate them in part for the higher flow on costs. In the past export incentives have partly offset the negative cost effects of the tariff and were at least partly responsible for the expansion and development of the export sector in New Zealand from 1964 onwards.

It needs to be clearly understood that these two sets of policies, tariffs and export incentives, are counteracting one another. The see-saw in Figure 2 is being pushed from both sides at the same time. Two wrongs don't make a right. The export incentives lower the benefit of the tariff to import competing firms, by raising the price of exportable items which are used in import competing production and simultaneously push up the cost of non-traded goods.

Many people do not appear to understand the close connection between these two sets of opposing policies. In an extreme case a policy of tariffs coupled with equivalent export incentives would benefit neither the import competing nor the export sector because the policies offset

each other. It is better for the community to have neither policy than to have both. This is because Government regulation has a cost. The offsetting arrangement of tariffs and export incentives produces no benefit to the traded goods sector, much regulatory cost to society and a waste of resources.

Cost of Tariff Removal

The symmetry between tariffs and export incentives helps to visualise the adjustment costs involved in removing tariffs. Import competing firms with tariffs removed face similar adjustment costs to exporting firms with exported incentives removed.

When both tariffs and export incentives are in place, the removal of either one or the other, but not both, results in larger adjustment costs than would be required if both were removed together. For this reason most economists recommend the execution of policy reform in a balanced way.

The balanced removal of tariffs and export incentives will involve job creation on the one side faster than redundancies are created on the other. In reality even this description is too stark. Most large New Zealand firms in the traded goods sector are involved in both import competing and export production. Changes in tariffs and export incentives then require marginal adjustments within the same firm.

For example, a Christchurch firm making toasters may be supplying the New Zealand and Australian market with an almost identical product. A balanced change in policies simply requires a change in marketing orientation and little change on the shop floor. A balanced reduction in both tariffs and export incentives in these cases would involve fewer changes in tooling, marketing and job training than would be required if, say, export incentives were removed first. The removal of export incentives initially will result in a severe contraction in the firm's export activities especially if management remains unconvinced that tariffs will also be removed promptly. Plant closures and staff redundancies are far more likely to occur in this setting than in a balanced policy reform.

Countervailing Tariffs or Duties

Another argument that is used to support the retention of high tariffs and countervailing duties is that New Zealand firms need to be compensated for subsidies that foreign governments provide to their industries. Foreign subsidised imports are a gift to consumers in New Zealand. From New Zealand's point of view subsidies paid by foreigners

are a net transfer of resources to us by an international Father Christmas. If the foreign subsidy persists, any New Zealand Government regulation to stop the 'gift' by some countervailing tactic is a direct loss to New Zealand. It is indeed possible that the regulations of foreign Governments can destabilise our market and result in fluctuating import prices to New Zealand. Furthermore, it is possible that the export pricing policies of dominant foreign manufacturers may be designed to create a poor environment in New Zealand for the establishment of a competing domestic industry.

It is easy to exaggerate the prevalence of these malevolent policies of foreign Governments and multinational corporations and hence over-react with countervailing duties. Nevertheless such reactions are usually considered necessary to distinguish between predatory practices of overseas institutions and longer term foreign subsidies beneficial to New Zealand. Countervailing and antidumping programmes can be designed so that they are semi-automatic and swing into action rapidly. They should also have rigid time limits to force regular appraisal of the market environment. If jobs and growth are the objective, every effort must be made to ensure that New Zealand consumers have the opportunity to buy imports at the lowest possible sustainable prices. This ensures that the maximum number of new commercial opportunities are open to New Zealand firms.

Rate of Tariff Removal

There is a certain intuitive appeal to the argument that major policy changes, like tariff reduction, ought to be announced well in advance so that firms can adapt gradually to the new business environment. The basis for this argument is that time is required for staff to be retrained or redeployed and for redundant employees to seek jobs. It also takes time for firms to re-tool and to make new investments. These arguments are incontrovertible, but the real question is how much time does it actually take to adapt and to what extent does the knowledge that a competitive environment lies some years ahead result in firms doing nothing about it on the grounds that "something may turn up"?

An analogy which might be worth considering is the process of moving from the imperial to the metric measurement system - a conversion that a number of countries have attempted in recent years but in different ways. New Zealand opted for a quick comprehensive change, while Canada, for example, used a more gradual piecemeal approach. The gradual approach involves using dual measurement systems (yards and kilopascals) and confusion for a long period of time. The quick conversion technique involves confusion and cost for some

days or weeks but a more rapid learning process. The gradual approach also tends to lead to strong political pressures for exceptions and other self defeating actions to be granted. The quick approach appears to be far less susceptible to such tactics. The gradual approach may not be more satisfactory or less costly.

Returning to tariff or export incentive changes, the affect of announcing their removal means that firms halt immediately investment in production operations which are not expected to be competitive at the end of the adjustment process. The capital value of the firm's plant and equipment will adjust immediately to the final expected value. They will not create new jobs, and indeed staff positions becoming vacant are not likely to be filled by replacements. Furthermore, firms might encourage potentially redundant staff to leave in order to minimise future redundancy payments. In short, from the firm's owners and employees viewpoint, a great deal of adjustment will occur immediately the announcement is made whether or not the policy adjustment is to be immediate or gradual.

The gradual approach does benefit owners if now useless plant and equipment can be operated for the remainder of its productive life. However, the immediate depreciation of the value of such machinery can also mean that the enterprise is now competitive again under the new final tariff policy regime.

The gradual policy of phasing out old protective policies may reduce future redundancy payments. But it may also increase them. This can happen if staff who would have normally left due to attrition now opt to stay on to collect redundancy payments.

The problem of adjustment is not simply an economic or commercial one - it is in large part psychological. On both counts there is some evidence to suggest that the main costs of adjustment are associated with accepting that the change is going to occur. Once that acceptance has been made, the gradualist approach may have little or nothing to offer as an adjustment mechanism.

That conclusion may sound callous, but it is difficult to justify the gradualist approach in the light of practical experience. The closure of manufacturing plants in Mosgiel, Patea and Shannon are past examples. There have been a number of other examples of alternative approaches to major policy changes like tariffs. Changes in import licencing, industry plans, SMPs, export incentives and other production subsidies have been carried out at different rates. It is not clear that the slower adjustments

have involved less cost to employees or owners than the more rapid changes but this evidence has still to be analysed.

Needs - Based Tariffs

A gradualist approach to tariff change also tends to encourage industries to lobby for the watering down or the reversal of the announced policies. This is one part of the political economy of tariffs which has received considerable attention overseas and increasing attention in New Zealand.

Tariff changes are subject to political pressure from lobbying groups. However, as pointed out earlier the lobbying effort tends to be biased in favour of those affected directly even though the lobbying groups cut across the traded goods sector. The New Zealand Manufacturers Federation and many trade unions have members from both the export and import-competing industries. So, too, does Federated Farmers. Now the benefits from lowering tariffs to the export oriented parts of each industry are great in terms of wealth and jobs. However, because these benefits are indirect it makes it difficult for lobbyists to put forward a position with positive net benefits to their members. As a result, lobbyists usually have to support the interests of those members affected directly.

The rent-seeking behaviour of these groups is more likely to bias the resulting policy programme if consumers and other end users have less bargaining power, and if the Government's policy is designed to recognise explicitly the 'needs' of different industries. This socalled 'needs-based' approach to tariffs encourages inter-industry rivalry and provides a justification for widely different settlements in tariff levels amongst products. From a community viewpoint, the issue is how the differential needs will be determined. If it were possible to ensure that 'needs-based' tariffs were based on providing jobs and stimulating regional production in cost-effective ways, for example, there would not be a problem. This is the most unlikely to occur. Rather 'needs' will tend to be based on the degree of concentration of lobbying efforts, marginal electorates and a host of other considerations which are usually highly inefficient from the standpoint of the community. This is especially true when one remembers that the highest tariffs will usually act as regressive taxes on society.

Wage Rates, Regional Development and the Tariff

One of the principal objectives of our society is to ensure that commercial benefits are widely spread in terms of higher real wages and

regional development. It is highly unlikely that either is achieved in the import competing industries through the maintenance of high tariffs.

To a large extent wages are determined on a relativity basis in the economy as a whole. There is little evidence that wage rates paid in high tariff protected industries are higher than elsewhere and casual observation would suggest the reverse. If this is accurate, it might well be that high tariffs produce a type of 'poverty trap' locking some sections of the New Zealand work force into jobs with little or no incentive for skill development. In fact, many such occupations may be on a downward slippery slope as it becomes increasingly impossible over time to sustain edifying jobs in the face of rapid technological change, particularly in the less developed countries. Tariff reductions provide an escape for workers from this 'poverty trap' environment. This is quite the reverse of what is sometimes argued. This effect would be compounded if low paid workers were also paying for most of the tariff in higher household prices.

The tariff tends to stifle required regional development rather than enhance it. This is because it provides a smaller effective subsidy to firms away from the major New Zealand markets and a larger subsidy to firms in the metropolitan areas. Given the limited scope of the local market, the tariff probably squeezes firms out of business in provincial districts. This is also contrary to popular belief. Indeed it may be possible to explain a large part of the concentration of import competing manufacturing in Auckland by the high tariff policy. Enduring regional development efforts arise from the exploitation of local resource advantages and the absence of subsidies in the metropolitan areas. Tariffs tend to frustrate this process.

Future Options

Concentrating our focus on one aspect of Government intervention, like tariffs, can be a disheartening process if we choose to make it so. But it need not be. The two broad options are tariffs or not. The right choice is important but it is not cataclysmic. If New Zealand persists with high tariffs and industry plans, it is most unlikely that this factor alone would cause our standard of living to plummet or for the distribution of income to become more skewed. Indeed on the positive side, less adjustment might be required in the future, and living standards might be judged adequate by the community at large. Ultimately that is a choice for society and politicians to make. Some of the probable negative social features of import protection may be buffered in other ways through education and public awareness.

The removal of tariffs will mean adjustment costs to employees and companies but it will also mean higher material living standards on average, wider commercial opportunities and the other benefits discussed earlier.

Collectively, which option do we want to choose?

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Section VII

Emerging and Persisting Issues

Chapter 24

Can Farmers Market?

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The economic environment has, for some time, been thought of as the overwhelming force that influences the production and marketing of agricultural and horticultural commodities. Prices have been regarded as the outcome of the interaction of supply and demand and their function is to clear the market and signal to producers, consumer wants. A rising price indicates that demand is increasing faster than supply, and gives producers an incentive to produce more. A falling price indicates that consumers want less, and encourages producers to produce less.

Efficiency plays an important role in this model by being good at informing producers about changes in demand, and not wasting resources. There is a heavy emphasis on producers to improve efficiency and on producer oganisations to use an efficient system. Market power is the principal means by which producer organisations can increase revenue for individual producers, an efficient price mechanism is needed to exercise it, and an efficient organisation is needed to keep costs down.

More recently, the idea has been advanced that marketing management principles, developed for branded products, can be applied to undifferentiated products such as raw wool, lamb cuts and vegetables. In particular, if prices and distribution channels are regarded as management decisions rather than the result of market forces, then the industry will benefit. It is claimed that consumers will benefit too, because market research, an essential ingredient of the marketing

management approach, gives producers more accurate information than the price system.

Most of the many farms or horticultural units are small. Most processing and distribution firms of agricultural and horticultural products are large and there are few of them. These are two important characteristics of the present structure of the food and fibre industry. As long as the small, one or two person farms or horticultural units remains the norm in raw material production, then these characteristics will dominate the development of the industry and the result of any action by participants.

Whatever changes farmers and consumers might seek the eventual outcome for them is usually the same. At either end of the food and fibre system are producers of a raw material, farmers and horticulturalists, and buyers of the final processed product, consumers. They are many in number, operate independently, cannot influence prices nor decide on the final destination of their product. There has been little change in this condition for many years.

In between are local processors and distributors, they are few in number, large in size, and often operate with implicit agreements not to compete on price. Over recent years their numbers have dropped, they have grown larger and they have become more interested in non-price competition.

As long as farmers cannot influence price nor decide on the destination of their products then, except during times of rapid market expansion, most will make just enough profit to cover their costs, including the cost of maintaining their investment, and a reward for taking a risk. The dynamics of change cloud this situation. Farmers who do get in early on a new crop or who anticipate a promising market development, can make substantial extra profit. Often the prospects for continuing high profits look so good that the demand for scarce resources such as breeding stock and suitable land, causes their price to increase even beyond that justified by the current high profits.

Later, when investors anticipate that the growth in production will outstrip the growth in demand for the final product, investment slows or ceases, resource prices drop and many investors can suffer a capital loss. This has happened recently in the livestock industry with deer, exotic cattle and goats, and in horticulture with kiwifruit, berryfruit and asparagus. If early developers are solely concerned with making money, they can capitalise on their foresight by selling out before the downturn. After a few ups and downs the industry settles down and those who have

been able to stay in production during the downturn find it marginally profitable to maintain their herd or crop in good condition. If the market expands again, farm gate prices and profit may increase enough to make a modest investment in new capital stock worthwhile.

Farmers can form grower organisations to co-ordinate their end of the industry. In some cases grower organisations merely attempt to gain market power by bargaining with processors collectively. The more ambitious try to cut out the middleman and set up co-operative processing and distributing operations. These organisations may achieve short term success and raise farm gate prices for their members and for others, but higher prices and profits attract new growers into the industry and, without control over supplies, it becomes, again, only marginally profitable to continue in operation. Or it may be "rescued" by an existing processor who no longer runs it as a co-operative venture but who, even so, may retain the words "Farmer" and "Co-operative" in the name.

The local processing and distributing sector is also dynamic. Large firms merge to form larger firms, and small firms briefly emerge to either collapse or be taken over by large firms. The result, often obscured by retaining the name of the taken-over firm, is that the control in the processing sector is becoming more concentrated.

In the discussion that follows three industry descriptions illustrate that money conditions seen as problems by growers are the inevitable result of the industry structure. They do not stem from changes in aggregate consumer demand nor from costs incurred by processors or other participants. If one accepts this situation, then other important considerations follow. One is that attempts by growers to influence aggregate demand will not necessarily gain them an advantage. Another is that cost reductions in the processing sector will not necessarily affect returns to growers.

Let us turn to the examples. First, a horticultural crop illustrates the effect on growers and processors when a small industry grows and participants anticipate a continuing increase in demand. Next, the structure of the sheep and beef cattle industry is used to show the effect of attempts to improve the lot of participants in an industry where processing is done locally. Finally, the wool industry is used to point out what happens when most of the product is exported in raw form. Both the meat and wool industries are examples where demand is not changing markedly. Though ownership of the dairy processing sector is nominally with the growers its structure is such that the general conclusions drawn here will apply to dairy farmers also.

The Asparagus Industry

The structure of the asparagus industry is that fresh asparagus for domestic consumption is sold through the vegetable auction market system and accounts for about one third of total sales. About 200 farmers supply one major cannery and two smaller ones with most of the remaining crop. The major cannery is also the largest food processor in New Zealand and either owns or has links with distributors and retailers. The pricing decisions of this processor dominate the asparagus industry, as they do in the rest of the process vegetable industry.

Two exporters take most of the asparagus destined for fresh export, a number of smaller ones follow their lead in obtaining supplies from farmers. Some farmers export their own asparagus. Careful and costly post-harvest procedures must be followed for asparagus that is to be sold fresh and for frozen asparagus. The price for fresh export asparagus is closely related to the canning asparagus price and the cost of the post harvest treatment.

It takes six years from initial soil preparation until an asparagus bed is in full production. For the first three years there is no marketable production, in the fourth year a small amount is picked. In the fifth year, at current prices, the return to a grower selling to a cannery just covers direct costs such as the cost of cultivation, of weed and disease control and of picking. It is not until the sixth year that growers can expect a return on their investment. Growing asparagus is a long term investment.

Asparagus has been grown commercially in New Zealand for at least one hundred years but for a long time production was limited and asparagus remained a high priced luxury vegetable. Large scale production was considered difficult because of problems of weed control. With the development of chemical weed control methods there were some increased plantings in the Hawkes Bay and in Canterbury in the 1960s; high yields were achieved with good profits reaped, though its production was still mainly a sideline operation.

Most process asparagus is canned. Post harvest treatment is not critical for canned asparagus; quality is measured against standards of length, thickness and compactness of the seed head. Labour is a major cost component of canning asparagus. Proper post harvest treatment is critical to its successful fresh export and freezing.

In Canterbury, a canning firm attempted to develop an integrated asparagus growing, canning and marketing operation but it was

unsuccessful. In Hawkes Bay area, asparagus that had been planted on poorly drained sites developed root disease, yields dropped below that required for economic production and many stands were uprooted and replaced by more conventional crops. Asparagus production declined in the early 1970s, but plantings resumed towards the end of the decade.

In 1982, the Ministry of Agriculture and Fisheries calculated a gross margin for asparagus. Asparagus production gave the highest per hectare gross margin of all the crops considered. That result was circulated throughout New Zealand by the New Zealand Press Association.

The dominant processor began encouraging growers to establish asparagus beds by arranging establishment loans on favourable terms in return for contracts to supply. Plantings began to increase.

In 1984, some MAF advisory officers noted and publicised the rapid growth in the rate of plantings. A group of growers in the Waikato, where most of the increased plantings were taking place, formed the Waikato Asparagus Growers Association and commended their action to growers in other districts. The result was the formation of five other district grower associations. A co-ordinating body, the Asparagus Council, funded by a voluntary levy was set up with headquarters in the Wellington office of the Vegetable Growers Federation.

The council made plans to promote the product locally and to collect and disseminate technical information and information about the market and the industry. However, an article in the Farmer magazine expressed scepticism about the value of the scheme and suggested some things that might be done.

> "The New Zealand Council spent about $35,000 on promotion last year and it is money down the drain. Now that is just my opinion and in the ordinary course of events the Council could refute my statement with evidence that it had researched the market, studied the distribution system, found out about consumers, slotted the promotional campaign into a carefully designed marketing plan, monitored its performance and modified the campaign and the plan in the light of the results.
>
> All these activities are necessary to be successful in the market; without them any campaign is doomed to failure.
>
> Unfortunately for asparagus growers, the Council has done none of those things and that fact confirms me in my opinion

that it has wasted its efforts and growers money. Probably it will go ahead this year with increased spending on promotion and pour more money down the drain."

Lewis, A.C. (March 1984)
The NZ Farmer

In 1985, the dominant processor announced a price nearly 20 percent higher than the 1984 price and more than 50 percent above the 1983 price. The Asparagus Council took some of the credit for the negotiations. Asparagus was a very profitable crop, even taking into account the long time lag between the initial investment and the eventual return. Plantings continued to increase.

About two months prior to the opening of the 1986 season the dominant processing firm dropped their price by about 20 percent. they also announced restrictions on their intake. Asparagus Council pressure was to no avail and the season progressed with all growers supplying processors and getting paid the announced price. In the event the season was late in starting because of a wet, cold spring, and most growers could not meet their quotas and processing firms could not meet their processing targets.

The Asparagus Council hired a marketing expert to advise on market development and to prepare an industry plan. Council members, the marketing expert and some of the exporters, took a trip around the Pacific to investigate market potential in that region.

During 1986 and up to the present, groups of concerned growers have met to discuss the prospects for the coming season and to plan to ensure that they receive a fair price for their 1987 crop. In some districts growers intend to invest in processing plant and equipment. In others they are discussing the option of refusing to supply processors unless the offered price is satisfactory. Many growers are questioning the value of the promotion campaign for domestic sales, and of the production and market information collected by the Council and provided free of charge to the processors.

It is unlikely that the efforts of the Asparagus Council, funded by the growers, have increased the average profits of asparagus growers. The Council has attempted to apply marketing management principles to the industry without putting in place the controls on quantity, product characteristics and distribution necessary to reserve the benefits for the participants who fund the operation.

The Meat Industry

For poultry, the production and marketing system is a highly integrated operation, from the provision of genetic material for livestock breeding and the manufacture of feed, to the retailing of the final product. Negligible quantities of chicken meat are exported or imported. The dominant firm in the industry controls over 75 percent of the production and processing of chickens, and is also the largest stockfeed producer in New Zealand.

In the Waikato and Auckland regions most producers supply on contract to one of two major processors. The processors supply the stockfeed and the chicks. Further south, producers are more likely to be independent, though they are limited in their choice of outlets. The poultry industry is often held up as an example, to the meat industry in general, of the benefits that can be achieved by adopting a marketing approach. There is no evidence that poultry producers and processors, on average, achieve higher returns to capital or labour than producers and processors of other meats.

The pig meat industry is integrated to a lesser extent. In some cases pig producers, like chicken farmers, are contracted to supply processors or must buy their feed from stockfood manufacturers, who may also be processors. In the South Island it is more common for producers to be independent and to make their own feed mixes. The Pig Industry Council, paid for by levies on producers, co-ordinates industry activities, funds research and promotes the product. There is no evidence that these activities enhance the profits of producers.

The main difference between the sheep and beef cattle industries is that most sheepmeat is exported and most beef is consumed locally. The Meat Producers Board, funded by a compulsory levy on producers, co-ordinates and regulates exports, gathers and disemminates statistics and promotes lamb and beef.

The system has hardly changed this century except that there are fewer farmers and the processing sector has become more concentrated. In 1983, two major and five smaller firms dominated the processing industry. Now there is one major processor.

In 1974, a commission of enquiry into the meat industry reported to the government on whether or not the export marketing system operated in the 'best interests of New Zealand'. The Nordmeyer Commission concluded that the marketing of meat was best conducted by a 'controlled form of private enterprise'. Control should be exercised, through

licencing, on the construction and location of processing facilities so as to avoid capital waste, and on exports to ensure 'orderly marketing'.

In 1977, a marketing academic saw the problem as one in which the industry did not sufficiently consider consumer wants; it tried to get rid of something one happened to grow rather than growing something one could sell well. In 1978, a recommendation by a DSIR scientist concentrated on efficiency of production and processing to solve the problems of the meat industry. In 1980, another marketing academic proposed a New Zealand Lamb Marketing Company. The purpose was to enable the industry to co-ordinate the pricing and distribution of its meat throughout the world. These examples illustrate that the practice of addressing the problems of an industry is widespread even though an industry has no common objective and has no structure for making decisions and taking action.

It might be thought that if, by Government legislation, the price for the final product could be increased then all participants in the industry will be better off. But this is not necessarily the case. For instance, when implementing a licencing scheme for export meat the licencing body may give one firm the exclusive right to sell meat in one region so that New Zealanders would not compete with one another in that market and drive the price down. If the meat marketing company restricted supplies to the market where it had control and achieved a higher price, then it might not want so much meat from farmers and, presumably the price to farmers could go down. Also, other exporters would lose that lucrative, now exclusive, market. It is difficult to think of a situation where an industry, meaning all participants in the industry, will benefit by giving one participant an advantage.

There are also past, present and future participants in the industry to consider. For instance, an activity like promotion, funded by meat producers, which achieved the purpose of raising the retail price, may not in the long run provide any benefits to the farmers who contributed to the cost of the promotion, even if some of the increase was transmitted back to the farm gate price. A temporary participant, such as a land dealer, could make the most money out of the situation by buying land and livestock after the promotion was paid for and before the promotion took effect; and selling after the promotion raised prices and before the extra production, brought forth by the higher prices, drove prices down again.

Current participants may receive a temporary benefit from any industry action, but may in the long run not benefit, or they may even suffer, depending on when they sell their enterprise and how much extra

production is induced by the temporary higher price. Future participants, if they buy when product prices are high, will always suffer when the product price declines.

When non-farm manufacturers plan a market development programme they normally invest in new technology, plant and equipment so that production matches anticipated sales. Primary product processors have no direct control over production and their form of investment is likely to be payment of premiums to induce farmers to change farm management practices so that future requirements can be met. But since they cannot secure that investment, other processors, who have not paid the premium, can just as easily procure the product.

The Wool Industry

Raw wool goes through many transformations and changes of ownership before the final product is sold to the ultimate consumer. The processor is unlikely to know the producer; the raw material producer is unlikely to know the processor. It is left to the price mechanism to transmit information on desired characteristics from one to the other.

If the price mechanism is working as it should a high price for wool with a desirable characteristic will alert producers to the fact that it is much in demand, and make it profitable to produce wool with that characteristic. However, in the wool industry, the price mechanism is not good at transmitting information. Seasonal and short term influences, such as changes in exchange rates, levels of stock holding and numbers of buyers at a particular auction, have more effect on prices than wool preparation and presentation. A wool producer cannot tell whether a price change has been caused by one of the outside influences or by the characteristics of the wool, such as fibre colour, length or strength.

The wool industry in New Zealand has been the subject of various investigations aimed at overcoming the shortcomings of the price mechanism and thereby increasing returns to the industry and New Zealand. To date, none of the recommendations have been implemented nor would they have been effective had they been implemented.

In 1971, the Batelle Report echoed the findings of the Wool Marketing Study Group's Report and listed problems of the wool marketing system, such as fluctuating prices, uncertain delivery, variation in quality and poor financing facilities, and suggested ways of overcoming these problems. Late in 1972, the New Zealand Wool

Marketing Corporation was established to implement the suggestions contained in the two reports. The Corporation was to be 'marketing oriented, commercial in outlook, profit seeking and flexible in planning and operation'. It was given legislative powers to acquire and dispose of all the wool produced in New Zealand.

In 1976, most contributors to a wool marketing seminar spoke of the need for the wool industry to adopt a more businesslike approach. The industry should plan for the future, draw up marketing objectives and embark on a promotional campaign, drawing attention to wool's qualities and changing consumer's attitudes towards wool.

Now, in 1987 wool is produced, distributed and sold in much the same way as it was in 1971, and as it has been since sheep were first introduced into New Zealand. The industry cannot be judged to be either better or worse off than it was since there is no criterion for judging nor any real basis of comparison. Had the Wool Marketing Corporation been able to use its powers of acquisition and use market power or marketing management skills to increase the price to processors as had been recommended in the reports then it would still be impossible to determine whether the industry was better off.

The participants that the Corporation replaced would have been worse off. Farmers may or may not have been better off depending on whether the Corporation distributed its profits to farmers, or retained them for growth. Local manufacturers may have been worse off if they had to pay more for the raw material. A 'commercial in outlook, profit seeking' organisation normally answers to its shareholders, not to the industry at large. The shareholders of the Corporation, meaning all the participants in the industry, would not be of one mind when it came to distributing profits.

In the event, the Corporation did not take up its brief to acquire and market all the wool produced in New Zealand. Opposition was strong from 'the Trade' who could see their functions being taken over, and from growers who were not convinced that they would benefit.

There are convincing arguments for the adoption of marketing management principles to the production and disposal of wool. A farmer could benefit by joining with others to develop and market a brand of wool. To achieve the benefits the organisation would have to have complete control over the quantity, product characteristics and distribution of all the wool sold under the brand. Yet given the present structure of the wool industry, any attempt to improve the lot of all farmers in the industry will not be successful.

Conclusion

The general structure of the agricultural and horticultural production, processing and distribution industry in New Zealand gives rise to a rather conventional thesis: that a recommendation addressed to an industry cannot achieve identifiable results. For a recommendation to be effective it must specify an objective and be aimed at a decision making entity, such as a farmer, an organisation of farmers, a processor, a cartel of processors or the Government. An industry cannot make a decision, nor can it really have a common objective. A recommendation for an industry, therefore, cannot achieve an objective for all participants at once, and cannot be carried out, for there is no-one to direct the action.

When farmers and horticulturalists talk about problems they refer to low prices for their products and to uncertainty about future prices; they refer to the high cost of fertiliser, agricultural machinery, animal health remedies, and to difficulties of meeting their mortgage commitments. These problems are the same problems producers of agricultural and horticultural products have always faced. Few farmers talk about marketing problems. This is insightful because it is doubtful whether a particular farmer will overcome any problems, or really benefit from, contributing to a fund for product promotion, research or other of the activities commonly thought of as functions of producer organisations. Nor is it likely that a farmer will gain from co-operating to form a processing organisation in an attempt to cut out the middle man.

A particular farmer is more likely to benefit by using proven technology effectively. A farmer may also benefit from joining others to produce a product that is distinct enough to be branded. The objective should be to control the product characteristics and the quality that is sold under the brand; to gain some control over price and distribution. These are not recommendations to all raw material producers of the same commodity. If they all took them up, none would benefit.

When processors talk about problems they refer to the high price and low quality of raw material, and to uncertainty about future raw material prices; they refer to the high cost of shipping, labour, machinery, the problems of financing further investment, and of keeping their shareholders satisfied. Their problems are the same as those faced by any business.

A processor will not need to join forces with other processors but will best be able to gain an edge by developing, maintaining and controlling a brand. A processor will have to invest in market developing of the

brand and secure the market so that other processors cannot cash in on the development.

When the Government talks about problems they refer to low and unreliable overseas earnings; they refer to the cost of subsidies, and of the cost of publicly funded research, education and information services. The Government is also concerned with the social effects of change, especially when unemployment results.

For individuals and firms the objectives of any action will be clear and the results easily measurable. They may be expressed in terms of profit and growth, and sometimes of lifestyle. Governments have welfare objectives that are not so easily expressed in terms of money.

Governments can reduce the cost of subsidies and research by not making the funds available, and make more money by adopting good business practices. But the effect of such actions, or of any other Government actions, on the welfare of the people of New Zealand, is much more difficult to measure.

If all participants of the various sectors of the agricultural and horticultural industry took up the recommendations contained here, none would benefit. It is not certain that the New Zealand economy as a whole would benefit either, or be able to overcome any problems. It is reasonably certain that a particular participant will benefit.

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Chapter 25

A Woman Farmer's Perspective

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The role of farm and rural women has been changing apace for the last 15 years, the process having been speeded recently by the downward turn of New Zealand's farm economy. It is these changes, the forces behind them, and their possible outcomes that I plan to deal with here.

For this chapter some data have not yet been formalised except piecemeal in the press and other sources. As a consequence, reliance has been placed upon personal interviews and notes taken from meetings with women's organisations and other political entities. People from Northland to Southland were canvassed for inforamtion. Past studies have been used, as has my personal experience as a farmer, wife, community leader and advocate of increased involvement of women in the many aspects of rural living.

Although I am writing specifically of New Zealand farm women, the issues covered are relevant to all rural women. I would also point out that mine is a pakeha's viewpoint, and I urge that full attention be paid to the role and views of Maori women in New Zealand agriculture.

Throughout, my goal is to recognise the role of farm women as respected and effective partners in the management of their farms' and their families' future. They contribute many on-farm skills as well as other skills economically and politically recognised in the community and in off-farm employment. Recognition may come in many forms beginning with self-confidence, their husband's and family's acknowledgement and inclusion, and the community's awareness of their potential contribution.

The Rural Women's Movement

In 1970, a new wave of New Zealand women's liberation groups emerged, but it was not until 1976 that rural women are recorded as putting in an official appearance when a small group in the Wairarapa surveyed the women in the Tinui district and presented a paper to the United Women's Convention 1975 entitled 'What is a Rural Woman?'. That study described her many attributes and competencies but, at the same time it acknowledges that while the nation could not get along without her, it also regarded her as the cheapest unit of labour in the nation!

In 1976, the Women's Division Federated Farmers (WDFF), in conjunction with the University of Canterbury, undertook a national survey of rural women. Those were heady days when farm women suddenly moved from being just somebody's wife to the status of a recognized national statistic.

A prime motivating force behind women who came forward in the 1970s was the need for better rural services. As one woman reflected: 'it was the injustice of it all. Why should our children have a second-best deal at school? Why all the red tape surrounding school bus services? Why can't our business have a phone that works?' As a result of these concerns, women collected data, wrote letters, lobbied, and learnt to work the political system effectively.

Danna Glendining formed TREC (Towards Rural Equality of Citizenship) in 1976. This was the beginning of a rural women's network throughout New Zealand. Rural women, aided by the conviction that the country did indeed ride on the sheep's back, caused many rural services to improve.

The object of the rural women's movement was to increase women's awareness of their rightful place in society. However, just to become aware and effective lobbyists was not sufficient. Next came the realisation that to effect change women must become part of the decision-making process. At that time few women sat on county councils, and even fewer attended Federated Farmers' meetings.

The successful Women in Agriculture (WAg) was launched in 1981. WAg is a network of women who wish to increase women's participation and reward in agriculture because in order for women to succeed in their on-farm and off-farm roles many would have to develop new skills and confidence. Seminars and workshops are held with the support of REAP organizers (Rural Education Activities Programme), the Ministry

of Agriculture and Fisheries, and various community colleges throughout the country. WAg seminars are held in all corners of New Zealand, usually in the local hall or woolshed. The topics may be practical or political, and are varied to suit the needs of local communities. They can range from instruction in tractor driving to self-awareness sessions.

WAg is said to be the fastest growing rural organisation in the country with over 3500 current members who keep in touch through a newsletter put out under the auspices of the Ministry of Women's Affairs. WAg has done a superb consciousness-raising exercise among rural women. It has been able to do so because energy is concentrated on the cause and not expended on an internal bureaucracy. WAg's strengths are its network of committed women, flexibility to meet local needs, and openness of membership. Its weakness comes from a lack of finance and, perhaps, from a lack of a formal structure even though most members do not yet feel the need for a head office or 'top dogs'. Some formal organisations find a semi-formal group of motivated women difficult to comprehend and even a little alarming in its potential power.

WAg could also play an increased communication role as the rural crisis deepens. For example, there is a continuing need to provide an awareness among farm women of their legitimate place in rural society and its economy. This awareness will help provide much of the base from which to effect future change such as continual improvement of rural services.

The 'Rural Women Stepping Out Workshops' provide an excellent example of a self-help situation. Run under the auspices of Lincoln College's Extension Centre, with rural women providing the organisational and leadership skills, the workshops are almost invariably overbooked. In tune with the times and bowing to the advent of the user-pays concept, sponsorship has now been provided by a progressive meat company (C.S. Stevens, Ltd.) after the traditional stock and station association declined to give financial support. This move indicates new linkages between progressive farm women and the enlightened management of certain 'value-added' processing companies.

In the past, two traditional formal structures have served rural women: WDFF and CWI (Country Women's Institute). However, both were created in times of differently perceived rural need and are now maintained by a predominantly older membership. While both organisations still have roles to fill in our communities, there is a growing indication from younger farm and rural women that these established organisations do not fill today's needs. Many women feel

that existing rural, social, economic and political structures are at odds with inevitable changes in the wider community.

Perhaps the solution is more complex than a simple remodeling of these existing organisations, which, it seems, prefer to have power and recognition for farm women come in the form of traditional nurturing and supportive roles. The feeling among many women is that this does not fully address the issues of what women's future economic base is to be, or the reality of achieving recognition as competent and reliable political partners.

Attempts may be made to keep women to one side by asking them to form 'ginger groups'. Another suggested alternative could be to form a national group based on a British model of the Women's Farming Union. However, neither of these is likely to come to grips with the desired integration of power. This leaves only benign neglect of the existing structures or their usurpation - neither is desirable.

A more contemporary approach to attaining these feminist goals, i.e. real equal economic and political opportunity with men, is through education about what sex role integration means and how it can be brought about. Part of the problem is that many women exhibit a lack of esteem as a direct result of sexism in our society. This is predominant in rural New Zealand as much role stereotyping and prejudices are held over from the past. Many farm women have become aware that there is an alternative, and they strive for a respected place alongside their men in the rural power structure of producers' organisations, county and regional councils, as well as in rural services such as education, communication and health.

Increasingly, it is seen that the farming organisations of the future will have to shed the historical baggage of 'old boy' networks and adopt a flexible infrastructure to meet the fast-moving needs of the emerging generation who will require leaders aware of the totality of farm and rural needs, and who can implement positive changes based on the use of upmarket attitudes and professional skills. To date, much of the energy and the finance of existing organisations is used in maintaining the 'fraternity' of farming's political prowess. Most farm women will expect to share in the revamping of these power structures, contributing their skills, their insights, their professionalism and their experiences. It is time to forge new partnerships, a new and different way of managing our farms and our rural resources, and a heightened respect for women's role in resolving the problems of today.

Legal Changes

A significant force behind the change in farm women's roles has been two legal changes which have done much to raise the status and effective self-esteem of farming women. They are:

(1) The Matrimonial Property Act of 1976 entitles both marriage partners to an equal share in their matrimonial property, making for a equal division of that property should the marriage end.

(2) The 1983 Income Tax Amendment Bill, which enables the formation of farming partnerships between spouses without incurring taxation, gift or stamp duty, thereby minimising the cost of redistributing legal ownership of resources within marriage partnerships, and spreading income tax and estate duty liabilities.

The 1976 Matrimonial Property Act was launched by the Labour Government in 1975 with an explanatory booklet in the belief that public reaction and input should decide its final composition. Ruth Richardson, a young rural woman employed in the Justice Department, was to become strongly associated with this Act. A Justice Department employee when it was initiated, she then moved to Federated Farmers as a legal adviser just as the impact of this law hit the conservative farming community. Was 'the wife' perceived to be a full and equal partner in a family farming business, or was she to continue primarily as an unpaid hausfrau often discussed socially in her presence without name and referred to simply as 'the wife'?

The 1976 legislation covered the situation when a marriage dissolved, but did not adequately cover the situation of the majority who remained happily married and wished to form a legal and equal business partnership. By 1983, Ruth Richardson was a member of Parliament and took a crucial part in the passing of the 1983 Tax Amendment Act. The cynics referred to this law as a tax dodge, yet in reality this new found legal status did much to improve the self-perceived worth of farm women.

While the Matrimonial Act gave a fairer resolution between marriage partners, it has also encouraged fairer provision for daughters in wills and estate settlements than had previously been the case. Parliament has yet to consider a third leg of these legal changes, that of disputing the payment of any death duties by a surviving spouse.

Alongside Ruth Richardson in the National Government was another rural M.P., Marilyn Waring. Marilyn talks freely of the difficulties she

faced in getting the National Party caucus to take women's issues seriously. Only history will give true weight to the changes these brilliant women have made to New Zealand's macho society. It is also important to reflect that these two women were able to achieve these feats in a National Government dominated by Sir Robert Muldoon, an extremely forceful political personality who at times chose positions which were antithetical to those of the women's movement.

Elected Representation

Few leadership positions are held by rural and farm women. The percentage of rural women on most county councils is increasing at a lethargic pace despite the fact that most who have stood have been successful. The upward trend did not begin until 1977, much later than in urban areas which have seen rapidly increasing numbers of women stand for election since 1962. For example, the level of women's involvement in rural counties and districts in 1980 was about the same as it was in cities and boroughs in the mid-1960s. That puts rural New Zealand light years behind. Until rural women are encouraged to have the confidence and then take the initiative to put themselves forward for decision-making positions, they are likely to continue to be ignored. It is discouraging that, although women are at least 50 percent of the road users, over 80 percent of the shoppers, and form the majority of users of community facilities, they have so little influence on siting, design, cost, maintenance, or growth decisions.

A number of women standing in the 1986 local government elections viewed with concern the increasingly strong influence of the fundamentalist or moral right. Part of their agenda appears to be the return of these motivated women to the kitchen and bedroom, their designated place in society. Another block is the negative attitude of some women towards those women who seek leadership roles.

A summary of the 1983 elections in terms of women's seats, finds that county councils fall into three groups: about half have no women members, about one quarter have between 1-19 percent female membership, and the remaining quarter have more than 20 percent. Two women stood for Catchment Boards in 1983, and were successful. However, there were no women on Pest Destruction Boards, and only a smattering represented rural districts on Electric Power Boards. The proportion of rural women appointed by Government to quangos is no better. A 1983 analysis of the 57 boards and committees under the agriculture portfolio shows that of the 464 positions available, only seven were held by women.

Although the 1986 triennial election statistics are not yet available, some facts are quite clear. Several large counties such as Ashburton and Southland still have no women on their councils. However, one county has taken a quantum leap. In Golden Bay County four of the eight councillors are women, and they have New Zealand's only current county chairwoman.

While the question of female/male ratios on boards and committees is important, there is also a need to reassess the entire spectrum of public board roles and objectives. It is highly appropriate that in this reassessment, the portfolio of potential issues is addressed as well as an analysis of the sex composition of the boards. It is not enough to simply have one or two women at the top. Even if they are elected on merit, there are also others well qualified to fill a range of positions. Tokenism is unacceptable today.

Why are women not standing for public office more often? One factor must be that the effort required to break down all the stereotypical barriers that have entrenched us for generations is, for any one individual, almost overwhelming. The task ahead is to create an awareness of moving many rural and farm women into accepting their leadership responsibilities - as individuals and as members of rural communities in which we live. It is important to impress upon the wider community the inherent value of having feminist viewpoints expressed round the various board and council tables, and to acknowledge that more and more women are making important investment and business decisions in addition to their usual 'taken for granted' handling of the family budget.

While the main thrust of the Women's Movement in rural New Zealand is an attempt to raise the consciousness of the entire rural female population, the cry of 'we've no role models' is often heard. Yet, while the official record of office holders in county councils and with organisations such as Federated Farmers is abysmal (acknowledged so even by them), there have been some notable rural women in leadership roles. The 1986/87 leader of the National Council of Women is a farmer, Jocelyn Fish. Three women have achieved the presidency role of the Young Farmer's Club since the amalgamation of the Young Farmer's Clubs and Girls Clubs in 1971. WEL (the Women's Electoral Lobby) also has many rural ties. Both Ruth Richardson and Marilyn Waring were founding members, and the present National Coordinator is a Wairarapa farmer, Pauline McLeod. Since much of its strength today is in provincial counties, we can only take that as an indication of the potential available and the necessary work to be done there.

At another level, the 1984 election saw the number of women M.P.s representing rural provincial seats rise from two to four. Future representation is unclear for a number of reasons. While rural New Zealand would likely traditionally support the return of the National Party, political pundits should consider the impact which the vote of rural women had in the last election. Feminism is a philosophy which in New Zealand fits more comfortably with Labour traditions, and consequently ideological shifts by rural women may well have contributed to the success of Labour in provincial seats in 1984. To date, the National Party has done relatively little to woo back that independent female rural voter, and the Labour Government is attempting to maintain its attentive concern.

On-farm Decision Making

Two main factors have encouraged farm wives to participate in management decisions about their farms more fully than in the past. First are the changes in the law providing women with the opportunity to move alongside their husbands as legal partners; and second is the grave economic situation in which most farm families now feel embedded.

The 1975 Survey of Rural Women in New Zealand indicated that on the whole, farm women had more years of formal education than their husbands, and that they often brought a keener sense of business to decisions. Increasingly, the idea of farm women being only bookkeepers and/or unpaid family/farm labourers is giving way to their being full-fledged members of a management team. The pendulum is swinging in favour of women's recognised and rightful place at the planning and decision table.

During the production driven period of the 1970s, farm women did not have first claim on the farm dollars to be spent. Today, that situation has changed, the priorities are different, and more farm women are sitting beside their husbands and accountants as financial planners. Younger women especially are defining where farm spending ends and family spending begins. Farm women are asking that economic and social considerations be also weighed up when decisions are made. Off-farm investment decisions, the possibility of off-farm employment for one or more members of the family, and identification of time spent working only on the farm versus time spent only with the family enter the decision-making process more and more.

Increasing numbers of women are attending the Kellogg computer courses at Lincoln College. Share groups are flourishing in rural areas.

These are all indications that in the future women with new found financial skills will be the effective managers of off-farm investments.

A Rural Bank officer summed up the situation with, 'Women are becoming involved in management to a far greater degree; they are not accepting a second-class partnership'.

A third-generation woman dairy farmer put her finger on the difference in comparing her role with those of her mother and grandmother (both of them also the 'owner's wife') 'there were no expectations of past generations of women except as physical workers in the shed. Now I'm expected also to make decisions about the herd and be responsible for acting on them'.

Another woman said 'I had to earn my credits as a financial decision-maker off the farm first before I became accepted in the role of equal farm partner'.

Yet despite these advances, there are husbands who still believe that keeping the books, but not signing the cheques, is involvement enough. However, it is clear that, in the last few years, greater numbers of women consider themselves actually involved with their husbands in making economic decisions about the present and future of their farms. There are also indications that when financial pressure is placed on the small one/two labour unit properties, women have increased their management involvement. The involvement of women on larger properties has not increased to the same extent. But there is still a need for greater emphasis to be placed on coordinated family discussions of farm and family goals and objectives.

Off-farm and On-farm Employment

In the last decade an increasing number of farm women have sought off-farm employment. The 1975 National Survey of Rural Women reported that only about 11 percent of farming women had off-farm employment. However, in 1985, the Southland study found that that number had risen to approximately 21 percent. Present indications are that it has increased significantly since, and that many women are driving considerable distances to off-farm employment.

One accepted way to stem the tide of farm people seeking alternative ways to supplement their incomes is to expand income opportunities on their existing farms. Diversification was the catch-cry of the early 1980s. The motivation for it was simply that additional farm enterprises were expected to increase incomes, thereby offsetting disappointing

traditional income (due in part to falling prices) or establishing a base for future farm investments that would lead to increased income also. Women were a part of this integral plan.

However, a study of the impact of horticultural development on farm women in Canterbury paints a very sombre picture. While most of the women had been involved in the decision to diversify into horticulture, providing work for these women was not a significant factor in that diversification decision. In most cases, the expected income was not realised. Increased returns did not cover the extra costs incurred in the venture. Women had to increase their hours of work without offsetting compensation, and, indeed, the financial success of the enterprise often depended solely upon the voluntary input of women and other family members.

Farm women who live near urban centres and choose to seek full or part-time off-farm employment have relatively few problems in finding jobs but for those women who live in the backblocks it is much more difficult. Research undertaken in the Taranaki hill country in 1986 provides a pattern of female employment which might apply to the rest of New Zealand's hill country. The study reports that the proportion of women who are employed off their farms, as recorded in the census, is well below the national average (not surprising since the local work options are predominantly agriculture or hunting). However, of the women who did find work a far greater proportion than the national average worked part-time, and 50 percent of all the women who took extra employment worked in agriculture. Economic hardship was also evident for the study indicated that over 80 percent of all respondents, female or male, said they had an interest in obtaining off-farm employment.

A serious effect of this situation has surfaced. The 1975 National Survey of Rural Women indicated that 73 percent were involved in physical on-farm work. The Southland Survey of 1986 gave an estimate of 87 percent. All indications are that most women who remain on farms have increased work loads. Concern must be voiced that as their work may be unpaid and not explicitly recognised in a farm partnership, the compensation paid would not be adequate to cover their responsibilities in the home and on the farm, should they be involved in a serious accident. The reason is that they are not designated as part of the labour force. The economic contribution of farm women will always be difficult to quantify since their roles and work responsibilities are so varied. It may be anything from answering the phone to managerial responsibilities if her partner is involved in exercises such as agricultural politics.

Money Isn't Everything

What was initially perceived as a simple decision for farm women to gain off-their-farm employment has many implications. In the short run it is relatively easy for women to consider the pay packet as 'ours'. The consideration of whose it is in a longer term situation is one not yet fully addressed by many farm families.

Women who have decided to go out for a short-term job and who have a definite target for their earnings, have had less conflict within themselves and with their husbands than those women who have opted for long term off-farm employment. 'The power of the pay packet is substantial', not only for the dollars it contains but for what the dollars represent to the woman who earned them and the family who sees her go to work.

Some of the questions to be resolved are: How much of a say in the spending of her wages does the woman have? Do her earnings get lost in the ongoing farm expenditures? Does she have independent control over all or even a portion of the money brought in for purchases she thinks are important to her life?

The concerns are real. If the woman's wages or salary is continually used to prop up a failing farm business, an inbuilt resentment eventually arises. On the other hand, if the woman works with a mutual understanding that her income will pay the school bill or go for a house remodeling, then there is a different feeling.

Generally, when there is a family financial crisis, there is usually no difficulty in sorting out everyone's priorities to focus on resolving the problem in hand. It is when the adjustment period extends itself into a seemingly never-ending contribution by one whose independence seems to be lost that real troubles are encountered. It involves complex feelings of self-worth, valued by someone outside the family who is willing to pay for the woman's professionalism. It integrates feelings of effective involvement in decisions with her partner about where, how, and when that money she brought in should be spent.

Another potential issue to be confronted can be the divided loyalties created by the off-farm job. No longer is 'the wife' around to help with the chores or farm emergencies: 'until I returned to off-farm employment, I had not realised how important I was on the phone', said one. No longer can her presence be assumed.

Further, as a good business employee, she may begin to develop goals for herself in the new opportunity, and begin to support her employer's interests and management techniques. The job can also be intellectually stimulating, drawing on innate talents not touched by farm work. One teacher who went back into the classroom to help pay the mortgage said, 'I missed the farm but it was great to be back in the classroom where my skills lie. Since coming back (to the farm), I'm suffering the most awful withdrawal symptoms. Thank God for an understanding husband'.

Another woman who had been very involved on the farm before she took her present full-time teaching position (in order to pay their children's education bill) is already concerned that the recognised responsibilities that she had on the farm may not be available for her when she returns to the farm full-time next year.

When both partners seek off-farm work the complexities increase. One woman suggested, 'Our roles are not unlike those of cohabitors who share a family and a household to run, but who are separate breadwinners. The farm is now our capital investment that we need to discuss and make decisions about - it is no longer 'our life'.

The people interviewed had many pertinent observations about how their community viewed their efforts. Many involved crippling notions of stereotyping that limited self-esteem and confidence. For example, one community's perception about changing roles for a farm woman and her husband was reported as: 'If a woman is employed off-farm they are still farming. If the man works off-farm, the woman is looking after the farm. If both work off-farm they have abdicated their right to be farming!'

With the changes in employment, other aspects of rural life are also affected. The traditional church fellowship groups are already almost non-existent. The Red Cross Society, the Plunket Society, and even the mid-week Ladies' Golf days no longer receive the patronage they used to. One consequence has been a rise in the number of community jobs that are now paid; for instance, the work covered by community recreation officers may well have been voluntary a few years ago. It used to be considered essential to our status and standing in a rural district to be active in voluntary groups. That is no longer true. In fact, one suspects that paid employment is now the status symbol or is it merely that a crisis such as a war or the present economic downturn gives women permission to seek off-farm employment?

Whatever the motivating force to seek off-farm work, rural communities are no longer self-sufficient islands even though many

relish that nostalgia. New rural social concerns will have to be faced, be it the replacement of essential voluntary work in the district and community, or the consequences of many farm partners spending endless working days alone. The changes are numerous. One must acknowledge them and turn them to our families' and the community's advantage.

While I have talked as a woman regarding these issues, I must concede that men may also feel locked into their 'provider' role. Studies have shown that many male farmers may not be able to understand why their spouses might feel differently about the money they earn than the farm income he works so hard to achieve. These studies also indicate that men may not be able to express their feelings about the issues/conflicts that arise during these debates as their wives. The point is that they may not be fully aware of, or able to express, their feelings about (1) being trapped into a situation of shrinking farm income with the inability to provide as well as they want to for their families, and (2) that throughout their lives they have naturally directed all energy and expenditures to the farm. There are few farmers, for example, who can honestly conceive of money earned from the farm as being their own to spend 'freely' although by their actions of controlling the money and spending the vast majority of it on their farms, they are doing just that.

Conclusion

In the past, physical effort has been the prime factor in our agriculture production and acknowledgement of physical ability has been the prerequisite for its leadership. Not so tomorrow. The prerequisite for New Zealand's future leaders of agriculture is that they be more highly trained, more market aware and more competent managers.

- Communication and information access will be the keys to on-farm profitability and informed leadership. It will be essential that rural women become familiar with new learning concepts and new communication systems.

- Women and men must make decisions together about the challenges that face them.

- The traditional barriers of discrimination against women and their role stereotyping can no longer be accepted in rural society.

- New political structures must not only include women leaders, but adequately reflect women's perceptions of what the policy agenda should be.

Rural development, a conscious effort to develop the countryside, should involve women and reflect their considerations about what that development is or should be.

To achieve these goals women will draw on their own individual strengths, and gain confidence and courage from the collective networking of rural women. Increasingly, our farm women of today will be the farm, rural and civic leaders of tomorrow.

An almost unidentifiable but potent thread ran through the interviews for this chapter. It was perhaps best described by one woman who referred to her marriage as a three-way partnership: the man - the woman - the land, and to thrive all must be kept in balance.

Many of the conflicts identified by those seeking off-farm employment were acknowledging these links, while those seeking a recognised role in the farm business were also acutely aware of those ties.

This triangle defies any computer analysis, is incomprehensible to Treasury economists, and baffles politicians. New Zealand will prosper if the worth of farm women in that vital triangle is recognised, sustained, and given equal economic and political opportunity with men.

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Chapter 26

Maori and Pakeha: Land and Fisheries

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All New Zealanders know that almost 150 years ago the Waitangi Treaty was initiated ending an isolated way of life for an indigenous people forever. Let us take a closer look at one core issue: property rights. This issue affects access to and rewards from both land and fishing concerns. By hindsight, it may prove to be that since both are strongly inter-related, the resolution of the fishing rights issues will provide keys to unravelling the even thornier problems associated with property rights questions of land.

The Treaty essentially concerned the ownership, transfer and protection of property rights in the lands and waters of the old (new) living place - Aotearoa (New Zealand). The arguments today concern these same property rights and a mutual desire of each culture to share equitably in the tangible and intangible rewards they offer.

The first point to consider is: who controls how much of New Zealand's land and water? There are at least two different perspectives when looking at this question. To the Maori of any tribe the spiritual essence of one's being comes from the land and sea, and involves deep-seated feelings of custodianship. While tribal carvings vary, the legends they portray do not. Collectively used, land, sea and streams were created for the Maori by providing and caring ancestor Gods.

Then boats came bringing Europeans, pakeha. There were not too many of them and they brought attractive trinkets, guns, and money which were exchanged for land. There seemed to be enough land for

all; it was all right. Yet more pakeha came, and more. The newcomers moved out onto the plains and into the hills having 'bought' the land. The newcomer's view was often tempered by recent experiences with the clearances of ordinary people from the British landscape. Perhaps, unknowingly, many were perpetrating the same deed under a different name on the Maori.

Most settlers saw land as the key to ending their deprivation. Land ownership promised a home place forever, a chance to earn a livelihood, and in some cases unabashed wealth. It promised self-sufficiency for people with families. It promised security. Backed by English law was this not so?

Collective/individual, spiritual/economic - it seemed inevitable that misunderstanding, greed, corruption, imperialism, nationalism and therefore violence would develop.

Good farmers and fisher people for the pakeha, was it so curious that the Maori felt pushed aside, denied access to enjoy the 'progress' they saw rising about them as the best lands, theirs for generations, were taken away and they were told to move on? One can certainly understand the frustration and fear a late European arrival might feel when, after buying land from a 'reputable representative of the Crown and Government', he found a group of Maori hostile and sullen because 'his' ground was 'theirs'? Good people on both sides came to sharp differences of opinion, and blood was shed.

Peace, and a treaty, came at Waitangi in February of 1840. Never fully understood or accepted, never ratified, deficiently translated and doubtfully implemented, the Treaty stands as an uncertain monument to good intentions and protocol. In its aftermath came the land wars of the mid-1840s and 1950s, and eventually the tribes were subjugated although they never admited defeat.

In 1846, Governor George Grey abolished the protector's Department, set up in 1841 by the Colonial Secreatry primarily to look after the land rights of the 'Aborigines'. He grandly took over the task of fending for the best interests of both cultures, pakeha and Maori. Shortly afterward, he appointed a 'Commission for the Extinguishment of Native (land) Claims' with an implied directive of getting Maori land rights as cheaply as possible. These actions were disclaimed by many pakeha who saw them as blatant land fraud, but not enough of them spoke up.

Although there were more land problems in the North Island where most of the settlers and Maori were, the South Island situation distils the

problems and are also well documented (Evison, 1986). In 1868, the South Island Ngai Tahu took their claim to the newly established Native Land Court and then to the Supreme Court. The case was never fully heard. However, it is on record that the Maori phrase "makinga kai" used in the Otago-Nelson land purchases in the 1840s, meant 'all those places where the Maori have gone for their traditional foods' (assuming anywhere - field, stream, hill or sea). But H.T. Kemp, a key land buyer for the Crown, who actually made the final sale to a private company, translated the phrase as simply 'cultivations'.

From this superb indifference to language meaning, the Wasteland Theory of land grew. Backed by Governor Grey, the feeling arose that only if the land was cultivated did one have the right to hold title to it. All else was declared idle or wasteland and therefore open for settler occupation. This was done with full knowledge that Maori custom and tradition provided little encouragement for tilling the soil except for minimal food and defence requirements. Despite Kemp's own admission of intent to fraud, and the appointment of Royal Commission in 1879 (a response to a Maori fighting fund of six thousand pounds raised in 1875) which ultimately substantiated Kemp's testimony, 'The Claim' was ignored.

The background noises of pakeha economic progress and land settlement were harsh to the Maori. In 1886, the New Zealand Census found only 41,432 Maori people. Their further economic withdrawal was enhanced by the 1890s depression, which led to their increased isolation. It was not until 1907 that another resurgence of Maoridom carried on the pursuit of 'The Claim'.

Throughout this time more settlers bought land in good faith, obtained title, established farms and businesses, worked hard and prospered accordingly. The opposite was true for virtually all Maori people. Another Royal Commission on Maori land claims in 1921 led to nothing. Then came the Settlement Act of 1944 which offered the Ngai Tahu a small amount of money for their claim, but no land settlement or property rights.

Under the Waitangi Treaty, the Crown (Article 2) guaranteed the Maori possession of their lands, and (in Article 3) that those rights would be equal with those of British subjects. Yet even under the Land Act of 1948, the Crown tended to ignore those rights. It issued Pastoral Leases which granted the right to occupy and graze high country lands with a perpetual right of lease renewal every 33 years.

Another surge of interest among Maori people gained momentum in the 1960s and 1970s. By now, many had been to University, travelled widely, and fought well in two world wars. They mourned their cultural and property losses, and in 1975, some 25-30,000 people marched on Wellington with the slogan 'Not an acre more'. Their action stopped the sale of land for a housing development and returned the Raglan golf course to Maori ownership.

Perhaps a pivotal point has now been reached. In 1986/87, an official committee of inquiry chaired by W.G. Clayton recommended that the Crown dispose of Crown pastoral lease lands by making them available for freeholding by present leasees. Further, under the State Owned Enterprises Act of 1986, these Crown lands were to be transferred to a new Government corporation. In both instances, specific reference to any obligation of the Crown to Maori interests has not been heard, and 'The Claim' has come to life again despite the fact that over 70 percent of Maori people now ive in urban areas and only 6 percent in the South Island.

It was clear from the beginning that the pakeha would never 'go home', that the Waitangi Treaty was both a political and economic document, that while the rules for living were different for the two societies the pakeha's were more enforceable, and that despite their being people of good intent on each side, the sea had brought a catch which would forever change what had been.

The economic question is: How can such a situation evolve into legitimate debates about 'efficient resource allocation' and 'equity' if some of the people involved have never been allowed freedom to: buy and sell property, equal political and economic power, information and technology, understanding of and training to use the complex rules of working within a dominating foreign culture?

There are several factors that have aggrevated this land question. For example, the Maori adapted quickly to European farming techniques, perhaps too well since the new settlers found they could not compete with them in arable farming and therefore turned to pastoral farming of which the Maori had no experience. This required more land, and thus ironically, the Maori success as arable farmers only contributed to the further loss of much of their land.

After the land wars of 1845-70, even more land was taken from the tribes. Increased pressures were put on them to individualise land titles, commonly held by tribes with the chiefs granting particular areas of land use. Land speculation again reared its head to such a degree that by the

beginning of the 20th century almost all fertile lands had been transferred to the pakeha.

However, to place undue emphasis on land ownership as a cause of the wars is rather simplistic. There was also a contest for authority. The early struggle for power was not restricted to Maori vs Pakeha, but within each group there were sharp fights for leadership. In the pakeha group this was clearly seen in legislation where coalitions between business and landholding interests, the greatest beneficiaries of territorial power, excluded all others from their associations (Simpson, 1984). Political power in both the Provincial and General Assemblies from the mid-1800s to the early 1900s was under the control of large European landholders. Land holding Maori were simply excluded from the vote.

During the struggle for power, another important, but secondary, factor arose: Who was a Maori? Increasing social/political attention was paid to the process of racial and cultural alignment from the late 1800s to the 1900s. Since many people were of mixed blood, could separate lines be drawn, and even if so, how did they relate to sharing property rights? This question was underscored after World War II when Maori ex-servicemen were settled back on the land. One consequence of this settlement was the establishment of corporations to manage land blocks with a large number of Maori owners. There were also proposals to buy out people with small interests to enable others to run the farm businesses more efficiently. However, such a policy was found to run contrary to the traditional Maori attitude towards land and the concept of efficiency. Consequently, considerable areas of Maori land have remained undeveloped and are likely to remain so for some time.

A third factor concerns the value of land. During the 1960s and early 1980s, the price of sheep and beef farms in New Zealand increased rapidly. From 1962 to 1983, the fattening and grazing land price indices increased at an annual compound rate of 12.4 percent compared to 8.6 percent for general inflation. Much of the actual dollar increase in land prices occurred in the 1979-82 period, and nominal capital gains for those years are estimated to have been some $9.3 billion for the New Zealand meat and wool sector (Seed, et al., 1986). This increase is almost double the Reserve Bank's estimate of $5.2 billion for total loans outstanding to the whole agricultural sector as of 31 March 1982. However, since 1982, land values have declined. When adjusted for inflation, the fattening and grazing index is only about 40 percent of the 1982 level.

The value of land, and therefore the ownership wealth, often is reflected in the capitalised flow of income and expectations about that

income's continuity. Agricultural subsidies have played an important part in determining land values and rents because: (1) there are direct commodity and land development subsidies, (2) from 1975-82 there was farmer expectation of continued subsidies, and (3) Government deficit funding considered both the absolute and expected level of subsidy which in turn added to the inflation of land values (Seed, et. al., 1986).

Another feature of the current land market has been the virtual moratorium on mortgagee sales of farms despite the serious eroding of equity and the ability of the farmers to service their loans. This implies a different societal attitude toward property rights in land as compared with the ownership of shares and other commodity assets. Despite arguments about whether or not it is 'fair' to have a moratorium, experiences in the United States during the 1930s and the 1980s have indicated that many farmers really only postpone the inevitable sale of their property. This temporary reprieve usually comes at the expense of creditors and prospective farmers who were not allowed to buy. The wealth and cash-flow implications are large to say the least.

The role of a democratic Government in intervening in a wealth property rights issue is complex. Realistically, it is largely determined by those who hold the wealth at the time the issue emerges. To change this position of political power depends much on the potency of the voter block which brings the issue to the fore. It also depends to a great extent on the receptivity of the uncommitted voting public which might be able to be persuaded by information.

Throughout all these changes and the various influences on land values and wealth accumulation, the Maori interests have been much neglected. The Government, backed by law, has pretty much seen fit to protect existing wealth rather than offer the protection of property rights offered by the Waitangi Treaty.

If the major issue with Maori land claims is to redress past injustices and set right the economic and social implications of those injustices, the first thing is to establish whether in fact there were injustices, and document what they were. If the evidence confirms that Maori land was 'sold' by other than free persuasion and with a full knowledge of the consequences, then the land claims would appear to have economic validity under the terms of the Treaty.

Fishing Rights

Two major property rights issues confront New Zealand's fishing industry. The first involves the individual transferrable quotas (ITQs) in

the in-shore fin fishery. They became operational 1 October 1986. The second is the Maori fishing rights issues which loom ever larger in New Zealand's politics.

Management of a commonly held resource like a fishery poses a two-fold problem: (1) finding the biologically (or economically) best sustainable harvest level, and (2) finding a scheme to enforce it for each species. In recent years there has been excessive harvesting in the fin fishing industry, and fish stocks have been reduced below desirable levels, threatening future regeneration and imposing increased harvest 'costs' on future fishers, and on consumers through higher prices for the fish they do get. Governments around the world have used a variety of policy options to restrict fish harvest. These have included annual and seasonal catch limits, season closures, gear restrictions, taxes, licence schemes and quotas. The use of quotas has attracted a lot of attention with ITQs being viewed as essentially a property rights solution. Once the initial allocation of quotas is made, equity ceases to be an issue because the market operates freely for buyers and sellers with anyone being able to buy or sell their rights to fish.

Another issue is: What should be the rentals or 'costs'? Fishers contend that rentals should be low and accure to owners of the quotas (Bevan, 1987). At the other extreme, is the view that the fishery belongs to the citizens of all New Zealand, and that rentals should be raised and go to the Ministry of Agriculture and Fisheries (MAF) as the citizen's agent.

The legal and moral claim for Maori ownership of the New Zealand fishing resource is based upon the Waitangi Treaty. In a predominantly coastal society the Maori placed great reliance upon fishing. In a spiritual sense the oceans were also of great significance. Under the domain of a deity (Tangaroa) the fish were his children, and a complex set of rituals governed the relationships between the fisher and his catch. These rituals included a set of ethics providing for fish conservation through prohibition (rahui) of harvesting at certain times of the year. This combination of respect and reverence for the sea and its produce endures today, and underlies much of the Maori's concern.

An historic national meeting (hui) to consider Maori fishing rights was held in November 1985. All the Maori tribes of New Zealand were represented for the first time in the country's history. Following this hui a submission was made to the Parliamentary Select Committee on Fishing. A Maori position was made clear: "The Treaty of Waitangi maintains ownership of fisheries to be the sole domain of the Maori, and any impact which results in financial gain/return must be negotiated

between the Government and the Maori". Whether or not this position will be agreed to is likely to become an important issue politically.

What are the implications should the Maori view be adopted? The Maori claim is for all fish resources in New Zealand, including species which have only recently been commercially harvested, i.e., orange roughy. It is generally recognised that their claim to shellfish like paua, kina and cockles is based on historic use, but the present claims are much wider than that. Licencing or fee arrangements would undoubtedly have to be worked out for an economic settlement.

Problems also exist in the allocation of fish between recreational and commercial fishers. Price rationing by licence and quota in the recreational fishery and ITQs in the commercial fisher would, in theory, be best in an economic efficiency and equity sense.

However, 'traditional fisheries' introduces a third user group. The 1983 Fisheries Act provides for a more integrated approach to the management of fish through management plans to balance the needs of different user groups. These groups are considered by MAF to include 'recreational, commercial and traditional user', but the term - traditional user - while explicit in much of New Zealand's law is not defined nor even mentioned in the 1983 Act. In the National Goal for Fisheries Management the aim is: 'To ensure that the fishery resources of New Zealand are conserved and managed for the maximum benefit of the nation' (MAF undated). It is now proposed that a separate policy on Maori fisheries be developed with the goal: 'To respect the cultural value of fishery resources to the Maori people and provide for traditional Maori fishing' (Cooper, 1986).

The issue facing New Zealand's managers is how to incorporate 'traditional fishing' into an operational plan. Legal interpretation of the Treaty of Waitangi will be important. But ranking the goals is a political issue, and any change in objectives will have distributional effects among everyone interested in fishing. The two polar positions of the Maori fishing issue are (1) complete ownership of the resource at one extreme, and (2) a recognition of only certain rights to harvest kaimoana in selected areas at the other. Some intermediate position is also possible, but it has yet to be stated.

Complete ownership of all fish can be accommodated within the framework of ITQs and licence fees. That is the situation currently existing between the Government and the Tuwharetoa tribe on Lake Taupo. Rights to the resource were declared to be the property of the Crown in exchange for one half of the fees over and above an administrative allowance.

The United States Supreme Court has repeatedly stated that the Indian treaties must be interpreted now as they would have been understood by Indians at the time they were written (Blumm and Johnson, 1981). This same consideration is being asked by the Maori in their own country: 'They want their own experiences, traditions and values to occupy an honourable place in our society' (Finding of the Waitangi Tribunal on the Manakau Claim, 1985).

While property rights may be conferred because of economic incentives, it is essential to recognise that such matters also have a cultural base. It is not only the physical revenue that needs recognition, but also the spiritual and psychic beliefs.

The property rights issue with respect to Maori fishing rights and ITQs raises the fundamental question of the right of the Crown to interfere with fishing rights which the Crown guaranteed to Maori people fully, exclusively, and with undisturbed possession (Muriwhenua Claim, 1986). The hui submission in 1985 draws a parallel between the Maori tribal lands and fishery issues. While Governor Grey seemingly had no scruples about this question in the 1840s, the present Government seems more enlightened. Individual ownership was initially a factor in the alienation of Maori land. In that same sense ITQs run contrary to the concept of communal guardianship of and access to the fisheries. Additionally, the Muriwhenua Claim resents 'the fragmentation of a communal resource through the creation of individual property rights that have been based on only three recent years of catching history, for a traditional harvesting of the sea and foreshore that goes back many generations'. Many Northland fishers and small fishing units of both cultures have been arbitrarily discriminated against by the ITQs rulings.

Currently the Ngai Tahu claim for a large area of the northern part of the South Island is being presented to the Waitangi Tribunal. More claims are awaiting the Tribunal's decision. Given the major problem of open access to fisheries resulting from a lack of clearly defined property rights, it should be no surprise that fisheries have become the focal issue in attempts to seek recognition of the Treaty of Waitangi. Once that is achieved many of the land ownership claims may be adjudicated.

These are stressful times for Maori-pakeha relationships. The issues of the past linger, and are of urgent concern for many of the present generation. Land and fishing rights as well as language will become ever more important social and economic grist for the political mills.

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Chapter 27

Personal Values in Land and Water Use

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New Zealand is dominantly a well-watered, pastoral land (Tables 1 and 2). However the numbers shown in the tables obscure the reality of land use patterns which have evolved in response to regional variations in soils, climate, economic, social and historical factors. In recent times there has been no shortage of information on the changing patterns of land use in New Zealand, or on speculation as to the competing uses to which our land and water might be put.

The Origins of Conflict

There was a time in New Zealand's history when we accepted Horace Greeley's injunction to: 'Go west, young man, and grow with the country'. With axe, fire and swamp plough, European settlers created a pastoral industry from forest and tussock grasslands. Agriculture continued to expand, albeit in a series of surges and slowdowns, for the first 50 to 80 years of European settlement. In the 1920s and 1930s exotic forests were planted over large areas of 'bush sick' land in the central North Island. In the 1950s and 1960s new knowledge about plant and animal nutrition, and new technologies for fertiliser spreading, fencing, weed and pest control, brought a new era of land development.

These were indeed frontier days. A time when there was little perceived conflict for the use of land or water. Where conflict was recognised it was for the most part swept to one side in the drive for greater productivity.

Table 1: **New Zealand land use, 1976**

Class		Area (000 ha)	Per cent
1.	Occupied farm and forest land		
	(a) Total pastoral use	13,924	51.8
	Improved grassland	8,979	33.4
	Tussock and native grassland used for grazing	4,945	18.4
	(b) Land in field crops, garden, and orchard	430	1.6
	(c) Plantations of exotic trees	806	3.0
	(d) Land in fern, scrub, bush, and second growth, or otherwise unproductive	6,065	22.6
	Total occupied	21,225	79.0
2.	Land in cities and boroughs	368	1.4
3.	National parks, reserves, and domains	2,656	9.9
4.	Other land including bare rock, water surfaces, roads etc.	2,621	9.8
	Total area	26,870	100.00

Source: Anderson 1980.

Table 2: **Water balance for New Zealand.**

	Estimated volume (km^3)
Average annual rainfall	540.0
Annual river discharges to sea	400.0
Annual evapotranspiration	160.0
Water abstractions (projected to 1980)	2.1
Total loss	562.1
Net loss	22.1

Source: Department Scientific & Industrial Research 1980.

However, quite suddenly, it was found that proposals for new land uses, be they for horticulture, viticulture, recreation, forestry or their associated processing facilities, needed land and water which were already committed to other uses.

As the Land Use Advisory Council (1983) noted,

> As the area of land not committed to a specific use gradually diminished, conflict was inevitable with various interests competing for the same resource. These conflicts have not only become apparent between productive and non-productive uses but also between competing productive uses. There have also been stronger demands in the last decade for conservation of native flora and fauna,...

For the moment we shall leave aside the matter of 'productive' versus 'non-productive' uses. The point is that today there is unlikely to be a single user of land or water who has not, or will not, encounter competition for the resources which, until quite recently, we had believed to be available in abundance. How is such competition to be resolved? Are we to rely on 'market forces', the rules of a planned economy, or some combination of both?

For better or for worse we have, in New Zealand, adopted procedures for land use and decision-making that are now contained in more than 45 Acts of Parliament. In addition national policies concerning, for example, indigenous forests, pastoral land, coastal lands and wetlands also influence the way in which land and water are to be used. The result is that our procedures for planning and decision-making are complex and, for the most part, poorly understood. This leads to regular calls for simpler procedures and less 'red tape' from those who see themselves as disadvantaged or limited in their endeavours. For some, solutions are to be found in a greater reliance on the market. For others they are to be found in simplifying legislation (as for example in the now discredited National Development Act).

However, before we adopt a new set of rules let's examine present procedures to identify the basic problem. If we fail to do so, we might well devise new rules which result in the loss of both baby and bath water. Simple solutions are tempting but as 'Murphy' has warned; 'There is, for every complex problem a solution which is neat, plausible and wrong'.

With this advice in mind I should like to consider briefly the two most important sets of rules that influence our uses of land and water - the Town & Country Planning Act (1977) and the Water & Soil Conservation Act (1967).

The Town & Country Planning Act (1977) has its origins in the 1926 Town Planning Act which required borough councils of more than 1000 people to plan. In the 1953 Act all local authorities were required to prepare planning schemes. Standards for rural planning were raised in the 1973 Amendments and broadened in the 1977 Act. It is an important piece of legislation for it gives local bodies authority to plan and manage for:

> ... wise use and management of the resources in such a way as will most effectively promote and safeguard the health, safety, convenience, and the economic, cultural, social, and general welfare of the people ...

While some might argue that this goal is so all-encompassing as to be meaningless, most would support the ideas contained within it as laudable. The real question is, how do we achieve these seven objectives and at the same time?

For the last 50 years the answer, in New Zealand and elsewhere, has been to zone, licence or otherwise regulate. It is the plethora of

regulations which have led to the many complaints currently voiced about this Act of Parliament.

Among those complaints, Ackley and Collins (pers comm., 1987) identify:

- Developers and entrepreneurs feel that there is an inordinate amount of red tape involved in making applications, in uncertainty about the likelihood of success, in multiple decisions involving delays, in negotiations with planners and councils - all of which are costly and time-consuming, with the ever-present threat of objections leading to lengthy appeals.

- Land owners feel that a district scheme, however well set out with its host of details, offers no security of tenure, stability and enjoyment because of the many changes which seem to be constantly taking place around them, be it road widening, unacceptable new land uses, the taking of land for public works, or other developments.

- People who in their minds are affected by changes, particularly through specified departures but also by public works, feel intimidated by the complexity involved in trying to understand what is happening and why, and are especially inhibited when they realise the possible costs involved in making an objection and taking it to appeal.

These and other complaints have led to repeated calls for reform. As Wheeler (1986) notes, some seek reforms to the practices of planning. Others seek clearer statements about the direction and purpose of planning. However, Proctor (1985) questions the very existence of, or need for, the entire enterprise!

Ackley and Collins and others acknowledge that at best the present system is complex, cumbersome and inefficient. At worst it may be unjust. They also recognise that planning, in some form, is here to stay. However much one may sympathise with a desire for less regulation and more reliance on market-related decisions, we should not forget the conditions which led to government regulations in the first instance. It was not a desire for bureaucratic control but a desire to ensure that, in the competition for resources, community well-being was not jeopardised by individual greed.

The Town & Country Planning Act has, I believe, failed to deal adequately with the problems of conflicting uses for land and water. However, I also believe that solutions lie not so much in reforms to the

Act but in changed individual and community attitudes to its implementation. The present legislation could make a much greater contribution to social well-being if we looked at it positively and dealt explicitly with the different preferences and priorities of individuals and groups within society.

For example, in many rural counties 'new' land uses, be they rabbit farming or forestry on large or small holdings, are termed 'conditional'. They have been so designated because existing land users, planners, and councillors have wished to retain a region's existing character. As Tremaine (1980) has reflected, this reaction to new enterprises in the 1980s is comparable to the restrictions placed on motor cars by the former Motor Car Regulation Act of 1902 and by the bylaws of many boroughs and counties who sought to retain the dominance of horses and horse-drawn transport.

The Water & Soil Conservation Act 1967 exists to:

> make better provision for the conservation, allocation, use, and quality of natural water and for promoting soil conservation and preventing damage by flood and erosion, and for promoting and controlling multiple uses of natural water and drainage of land, and for ensuring that adequate account is taken of the needs of primary and secondary industry, water supplies of local authorities, fisheries, wildlife habitats, and all recreational uses of natural water.

This Act replaced a complex system of earlier statutes and common law rights with a system which vests all rights to use water with the Crown. Any water user must first obtain a right to do so from either the National Water & Soil Conservation Authority (NWASCA), or from one of the 20 catchment authorities that have much of the responsibility for promoting the objectives of the Act and for reconciling conflicts between competing uses and users.

There are two important features of that legislation. The first is that the Act enables catchment authorities to control land uses for the purpose of preventing soil erosion. For instance, although goat farming is expanding rapidly as the value of their products and their ability to control woody pasture weeds is increasingly recognised, goats can also cause soil erosion. Catchment boards have the authority to limit their use in such circumstances.

The second is that water boards grant water rights. Although, in general, the law deals separately with land use and water use, regional

water boards by granting water rights have a direct influence on land use. For example, water in the Ahuriri river was required by two user groups - farmers who wanted to abstract it to irrigate crop lands and anglers and others who wanted it in its natural channel to provide for the needs of fish and other in-stream values. In that case a committee of the National Water and Soil Conservation Authority recognised the in-stream values and placed limits on the quantity of water which could be taken to enhance agricultural production.

In a similar fashion a water board, by granting or not granting rights to drain wetlands, has a direct influence on land use and the choice of enterprise.

If the goal of water resources management is to enhance social welfare then the major problem that we face is not a lack of scientific information, nor a lack of capital, but the devising of a set of rules that will facilitate land uses that will promote social justice.

The problem facing catchment authorities (and ultimately the courts) is that they operate within an Act which requires balanced use but gives little guidance as to what that balance is, or how it is to be achieved. As things stand at present, conflicts which cannot be resolved between the parties directly involved are passed to the courts which face the monumental problem of attempting to deal in law with issues which are in reality, the competing preferences and values of individuals or groups within society.

Again the point is that, while the Water and Soil Conservation Act may be in need of amendment, we should recognise that the main problems we face in making allocative decisions lie in dealing with the preferences of individuals and groups within society. Deficiencies in legislation seem to be a lesser problem. Dealing with personal values in either the case of land or water uses is the key issue. How to work among often conflicting goals and objectives presents real problems.

We have many options for the use of our lands and waters. For each option we have much information about profitability, management needs, and climate requirements. However as we seek to answer the question, 'Which way?', we must remember that each land or water use has important implications for today's society and for the society that we might become. Because we are a country with divergent views as to a preferred social order it is inevitable that the values of individuals or groups will play an increasingly important role in determining our preferences for land use.

For some, the solution to choice between competing alternatives is the clear specification of property rights; the market, where these rights may be exchanged; and the courts, where the validity of such exchanges might be tested.

The problem with this approach as a general solution is that it fails to recognise that some groups within society do not accept the values that are implicit within its assumptions about the nature of land and water. Nowhere is this more evident than in the matter of Maori attitudes to land and water.

For most pakeha people the right to use land carries with it the obligation for stewardship; sound management that will ensure that the land is passed to the next generation in good, and preferably improved, condition. But stewardship is also compatible with the belief that land can be owned and traded in a market economy. I believe that for most pakeha it is difficult to truly understand the intense spiritual relationship between Maori people, the land and the water.

As Asher and Naulls (1987) note:

> To the early Maori, land was everything. Bound up with it was survival, politics, myth and religion. It was not part of life but life itself. Taking culture in its widest sense, there was no part of early Maori culture that was not touched by the land. The continued occupation of a piece of land was the most obvious sign of a link between generations - between those dead, those living and those yet to come - in a society without written records.

The same intensity of emotion exists for water. Water was created from the union of Papatuanuku (earth mother) and Ranginui-etu-nui (sky father) and is therefore an integral part of the earth, land (Williams, pers comm.).

Those who believe that such values belong to a former period of time should note that in recent years a number of legal and other developments have reinforced the trend toward an accommodation of Maori rights and claims within pakeha law, and institutions. This trend makes the need all the more urgent to devise systems which deal explicitly with the values that are central to the choices between alternative uses of land and water.

There are at least three existing institutions that we might make use of in this effort; parliament, the courts and local councils. Parliament is

one result of our previous attempts to devise institutions to make social choices for and on behalf of the community. Some might therefore argue that competition for the use of land and water should be resolved by Parliament (as for example in the Clyde dam case). While Parliament should provide guidelines and criteria to ensure that equitable decisons are made the suggestion that Parliament decide would be both centralist and unworkable.

Some might suggest that decisions should be made by the courts. While the Planning Tribunal and other courts have played an important role in resolving matters of choice their judges have also repeatedly warned that courts should not be making political or value judgements (see, for example, Timmins, 1982). The courts can ensure that value judgements have been properly considered in a decision-making process (as for example with Mr Justice Casey's opinion in the Clyde dam case), but value judgements themselves are not amenable to judicial determination (Turner, 1982).

As things stand at present most decisions on choice between competing enterprises are made by local councils and regional water boards. If future decisions by the councils are to be both socially acceptable and socially just, perhaps the most important need is for a greater public involvement. This will allow for new attitudes from those who service and serve on the boards and councils. It will encourage new approaches that give earlier exposure to the processes of analysis and thereby reduce the dependence of council members on their professional staff. And, finally, it will permit more willingness to recognise that because the decisions will result in winners and losers, adequate provision should be made for those who lose.

New Zealand is not a homogenous society. We are a nation of identifiable groups whose culture, experience, age, sex and education result in our holding differing priorities and preferences for the way in which land and water is to be used. Until such time as these values are dealt with in a systematic and explicit manner our land use choices will result in something less than social justice.

We will make many mistakes as we try to develop a fair but efficient decision-making process. Many will become frustrated and call for simple solutions. However, we should remember that we live in a complex society and that the choices that we must make are becoming ever more complex. It would be naive to believe that they could be amenable to simple solutions.

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Chapter 28

Do We Need a Rural Policy?

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Should there be a rural policy for New Zealand? It's not an easy question to answer. Even if one wants rural and urban areas to have equal standards of living there are different ways to achieve that goal, some of which might hinder the very development process one is trying to achieve.

What are the policy choices? They range from: (1) having a separate rural policy aimed specifically at rural people and areas, through (2) creating an effective rural component of certain national policies such as job creation, education, health, resource development and communications, to (3) attempting some combination of the first two, to (4) having no special policy for either sector.

To elaborate, if one of New Zealand's national goals is for increased unity then perhaps there may be no need for separate policies for rural and urban areas. Public officials may decide that since the same type of problems (unemployment, poor health, bad housing, etc.) exist in both rural and urban areas, a national policy would be more effective than a series of individual area requests with each one demanding separate policy attention. The risk of trying to make a separate rural policy is that it clearly establishes rural areas as a political minority. Even though rural areas have been a minority, they haven't necessarily acted as one. This proclamation would subject rural areas to all the pressures any minority group must face: finding funding, inventing political coalitions to get what it needs, and the crucial problem of how to

establish its legitimacy and 'credentials' with groups who do possess the political majority.

On the other hand, the risk in rural areas attempting to become more effective recipient/participants in on-going or new programmes relevant to them is that they may lose out to urban residents. City people, as a majority, could decide that under increasing budget pressures, public investments in rural areas may simply not offer urban interests as much benefit potential as if those same expenditures were made in urban areas. Rural areas would have to take their chances on being recognised as effective partners on non-farm issues dear to urban hearts in order for urbanites to be persuaded to act for rural interests. This is sometimes a difficult task since history shows a trail of considerable disregard by rural dwellers for the plight and concerns of city folk.

Are there any first steps one should make before a decision is made about rural policy? Yes! one should be able to: (1) document that important differences between rural and urban areas actually exist, (2) decide if the differences can be modified, and (3) decide if the differences would be better changed by public policy intervention or private sector involvement. The first point simply involves reviewing published data to see if there are differences. The second point calls for some analysis about what is, in fact, possible. The third point calls for a value judgment about whether New Zealand's general welfare would be improved if public policy were focused on only a part of its citizenry.

If, after surveying the available information, one decides that no important differences between rural and urban areas exist (or if they do, they are not deemed important enough to warrant much public attention) then one accepts the status quo and whatever it may bring. In effect, a person with this view of the world would say there is no rural concern more urgent than urban concerns.

However, if one decides that there are important differences, and that some type of rural policy could beneficially change the status quo, then one is forced to come to grips with the questions of strategy and tactics of how to formulate and implement such a policy.

During this pre-policy formulation period several pieces of information will emerge. One will be the fairly clean separation of income (welfare) questions from resource development questions. Another will be identification of areas which survive mostly as a result of continued underpinning by subsidised government programmes. And a third will be identification of places, people and activities which could respond to world market conditions if given policy/programme incentives.

Against this background of options, let's review the situation that currently exists. Are there any real differences between New Zealand's rural and urban areas? The answer appears to be an unqualified yes. Authors of preceding chapters indicate that rural communities are losing population, have relatively less income per family, often have fewer and lower quality community services, have fewer cultural activity options, and have relatively less chance of finding reasonable non-farm jobs or business opportunities than their urban counterparts.

Do these findings make New Zealand the 'odd man out'? Not at all. In fact, these trends seem to be inevitable, international, and despite the pain they cause, they are evidence of both social and economic progress. As an economy develops it evolves into three main employment groups (Figure 1). The evolution can occur rapidly or slowly. In New Zealand it has occurred quickly with a peak of rural labour force occurring around 1900. In the beginning, almost everyone is employed in production farming and lives on their farms. As the economy matures it adopts increased amounts of technology, and people move from farming into crossroad areas which eventually become urban centres where manufacturing can function. As these two trends continue a need for various services arises. Eventually people in these service jobs come to dominate the total employment of the economy. This new and different employment base for the nation is an expanding area - hastened by the information and communication industries. It is also more sensitive to economic pressures and employment cycles worldwide than the more recently industrialised and more insular type of economy.

This economic maturation process is not spread evenly over the country because the geographically sited resources available for development vary as do the desires and capabilities of the people living there. The point is really not whether New Zealand will be able to escape the consequences of the process, but rather how she can benefit from its evolution. Thus, a normally active development process results in an uneven distribution of income, jobs, wealth and population concentrations throughout a nation.

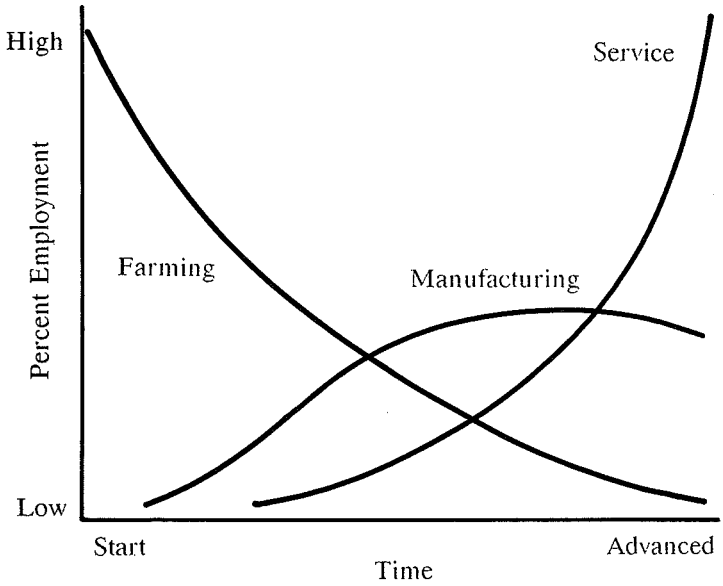

Figure 1: Evolution of Employment Growth in a Developing Economy

A policy which helps rural areas match stride with urban area growth aims at lessening the 'natural' growth gap between the two, generally through some type of public investment. In Figure 2, two rates of economic growth are shown: one is for a poorly endowed rural area, the other is for an area with a relatively rich resource base. Initially, there is a difference between their rates of economic growth (a). This is to be expected. However, as time progresses, the difference, or the development gap between the two areas widens (b). The purpose of a resource development programme is to lessen the gap (c), and achieve a more rapid rate of growth.

Even though one is aware of these ideas, the magnitude of these differences in New Zealand as it shifts from a predominantly pastoral/agricultural economy to a more diverse one, leads to concerns about the distribution of benefits during the process. People who have been relatively well off can harbour resentment about change when the area they live in is faced with economic downturn. This feeling is usually more pronounced when part of the area's economic and social well-being has been built on an artificial foundation, such as unrealistically high levels of government aid rather than worldwide

market values and recognised patterns of trade. This condition is true for New Zealand farmers just as much as it is true for European, Japanese or American farmers who have built many of their farming hopes on the basis of unrealistic commodity subsidies.

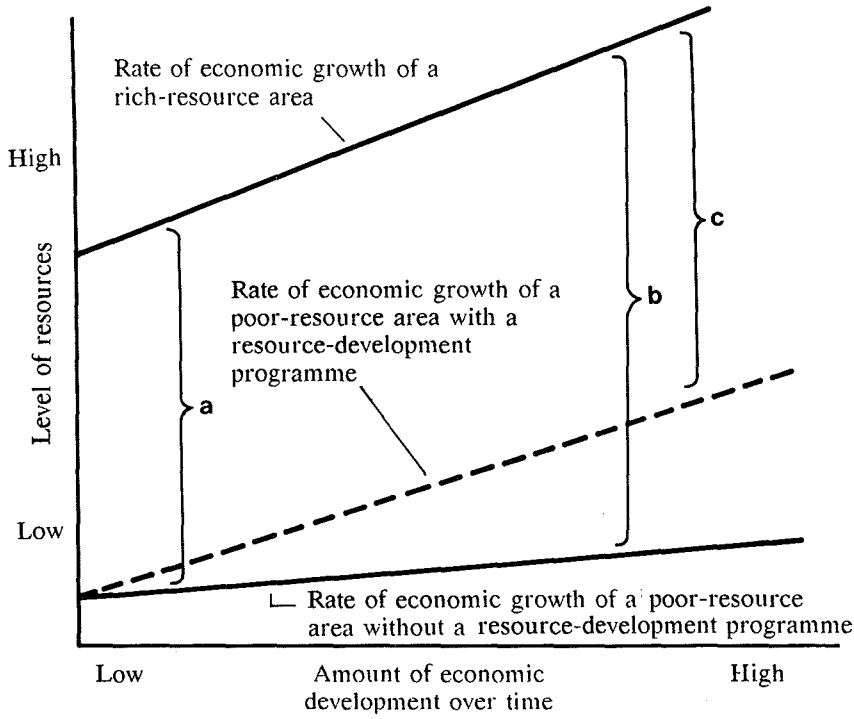

Figure 2: Comparison of Richly and Poorly Endowed Rural Areas, with and without a Resource Development Programme

It is natural for people living in hard hit rural areas to ask for an improvement in their situation through some type of political solution. This kind of request is what drive most of a democratic governments' policy-making, i.e., responding to a need voiced by some part of the nation's voting population

However, despite the differences we've noted between rural and urban areas, we must also acknowledge a commonality of need. High rates of unemployment, low family incomes, low levels of formal education,

inadequate housing, and poor access to health facilities and sources of risk capital are as common to certain urban groups as they are to rural groups. In all cases, however, it is perfectly legitimate to raise the question of whether a political response to these needs should be through creating separate policies or through an attempted generic policy resolution.

In the case of rural New Zealand, past policies to alleviate low economic conditions have usually come through direct commodity or resource development incentives of one kind or another. Other responses have included off-farm policies such as education/training programmes, rural health programmes, subsidised petrol prices, creating new non-farm employment opportunities, and fostering closer rural/urban cultural ties and political coalitions.

Rural residents need to make a decision about how much they wish to try to control their own fortunes either through encouraging local leadership development or by simply accepting 'top down' direction. The history of New Zealand shows mixed reactions to this question, yet events within the last five years seem to point increasingly toward the locally determined problem/solution route. Increased exports of chilled cuts of meat processed by private sector firms is one example. In any case, there will be long debates on the relevant performance criteria for evaluating any policy programme as well as the priority of the projects initiated.

If a protectionist route is chosen to help a rural area develop, i.e., provide a subsidy to initiate a project and then protect it against 'outside' competition, one must realise that the toughest part of the development decision is still to come: when to withdraw the protection thereby releasing the industry to the forces of the free market. Part of the reason for this difficulty is that if the project is even partly successful in terms of generating jobs and income, those who benefit will not want to be released, and, indeed, are likely to protest that to do so will be the ultimate ruin of the area. To put that argument in worldwide perspective, however, it is exactly those industries and business firms which do survive without subsidised productivity that last the longest. If a development project is too protected it tends to breed management deficiency and performance inefficiency, precisely those things which are not wanted in such circumstances.

Given the choice between (1) quickly obtaining a short-run (opportunist) development project, or (2) possibly getting a longer-run project, acknowledging that competition for it will be more intense - which way should a policy maker choose? Experience says that

involving the local people in the decision is the best method regardless of which choice they make. Getting people to take the initiative about their own areas almost always provides maximum benefits in the long run. However, turning the decision-making process over to lay citizens is often viewed by policy makers as a threat to themselves and orderly government. Yet it is essentially the extent of personal acceptance of responsibility and commitment to local leadership development that will ultimately determine the fate of a rural community. The exception to this generalisation would be where an area might have to conform to national wishes or law despite its own value judgments, e.g., taking land through the Public Works Act (eminent domain) for building a road, a hydro development, or a recreation site.

Another advantage with a policy that encourages local initiative is that it is more likely to offer a wider base of creative economic diversification than if the development alternatives come from 'outside'. (No creative ideas will necessarily spring unbidden out of a rock). Given a positive forum for exploring development options, and expecting thoughtful professional work levels from everyone involved, community after community has discovered ways to feel better about themselves, provide more jobs locally, and continue in that area with a better life offering than before.

Perhaps it should go without saying, but too often the point is overlooked: leadership development does not mean that all projects have to be done under one leader. Men and women have differing aptitudes, skills, dreams and abilities about what they want to or can do for themselves and their areas. It takes skill and patience to draw the best from people - and there is always a best side to everyone.

One goal for rural New Zealand probably should be to begin to build firm bridges with urban areas. The reason is that, in time, rural areas will need the understanding of urban areas to get what they need. Now is a good time to form positive coalitions with other diverse groups - even if such a joining may appear inconceivable now, it will pay off later. For example, farmers often consider consumer groups and environmentalists as their adversaries. Ways should be found to forge ties with these groups on issues affecting rural areas.

Rural people have a tendency to strike a bargain or persist in a way of doing business as though they expect it to last forever. Often the world will not let these arrangements stand, no matter how wonderful they may seem at the time. Changes will have to be made eventually. These changes in the way people conduct themselves and their businesses do not mean betrayal, compromise, or loss of personal integrity. They

simply mean making business-like decisions when the conditions so warrant. Farmer coalitions with consumer and environmental groups are currently in evidence on some issues in the United States, whereas even five years ago such liaisons were viewed as heresy. The key is that the working coalition depends on the particular issue at hand. Integrity, respect, dignity and honour can all remain as they were even through a series of policy switches as long as people understand the reason for the changes.

For example, urban dwellers have helped rural people in their battles against unrealistic property zoning on city fringes. Consumer groups have sided with farmers and processors against unreasonable food product labelling requirements, while they continue to fight sloppiness and unsanitary conditions in food processing plants whenever they find them. Environmental groups in the U.S. have joined farmers in conserving water, the water saved then being sold to urban residents. Some environmental groups have even aided farmers who use burning as a way to control unwanted scrub, provide better grazing, and offer better vegetative watershed management for everyone. The list gets longer daily.

Too often rural people think of urban areas only as pot-holes of pollution, human congestion, false values, and unbelievable people - while some urban residents think of farmers as wealthy naive breathers of fresh air who eat too well, clomp around in gumboots, and are not too helpful in giving accurate directions to city drivers when they're lost. Probably one could find examples of both these stereotypes somewhere in New Zealand. But it's closer to the truth to say that urban residents benefit from using the countryside which is conserved and tended by the agriculturists acting as stewards of the natural resources as much as rural people use and benefit from the commercial and cultural opportunities offered in urban centres. In addition, urban areas usually benefit from rural people who come to town hunting for jobs since they bring the investment in their education with them. The differences between living in rural and urban areas are becoming less. For example, it is not uncommon in many areas of the world for farmers to live in town, commute to their farms to work during the day, enjoy television or attend cultural events in a large city in the evening, buy milk from stores, and meat from the butcher.

Questions about rural policy or a policy for rural areas will never cease as long as the development process continues. However, from time to time the answers will change. 'Think Big' has had its day in New Zealand, while 'Small is Beautiful' went through a phase in the U.S. Subsidised, petro-chemically dependent farming was the cry of the

1960's and the 1970's, while today many farmers round the world are asking questions about the sustainability of an agriculture founded on those premises. Perhaps the fundamentals of development for all areas are meant to be continually relearned: the questions remain the same, only the answers change. And the response to the questions is best when informed and curious local leadership, locally assumed responsibility, and cooperation on all levels are involved in the development decisions.

The future of New Zealand's rural areas will depend to a large extent on what the people living there decide they want, and how skilful they are in obtaining articulate and persuasive spokespersons for their causes. The rural areas are in for a massive reshuffling of their agriculture - the better the soil, the climate, and the labour skill pool, the greater the potential for change. New technology will force new ways of producing and marketing raw farm materials. Bright management will figure new ways to add value to those materials. Ownership and tenure patterns of farming are due for a shake-up through business and inheritance changes. Women will be increasingly effective, well-spoken partners in the development and management of rural areas. A more complete use of New Zealand's rural resources will be attempted through development of its tourism potential. This 'outside' influence in rural areas will itself cause other changes to adapt to it and enable rural people to take advantage of it.

Perhaps most significant limits to effective rural policy are lack of creativity, lack of imagination, and poor judgment. Rural residents have proven they are creative, imaginative and good managers. The stumbling block seems to be how to tap into those productive resources. However, that is the challenge which New Zealand people seem increasingly to be winning.

Whether or not there should be a separate rural policy for New Zealand is really up to the rural residents. However, if rural people cannot make up their minds about how they want to develop their areas, it is quite clear that urbanites will assume that responsibility for them. And while urban voters may have the best of intentions, they do not live in the areas about whose future they are quite willing to make decisions.

Chapter 29

User Pays Revisited

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Recently there have been significant changes in the range of services provided by Government and in the ways they are funded. These changes have been spurred by the need to increase growth in the economy and to reduce the Government's fiscal deficit. Many traditional Government programme have been examined to see whether their continuation is justified. A decision for continuation requires firstly that the programme be run efficiently (i.e. that it achieves its results with the least possible cost), and secondly that it be worthwhile (i.e. that the benefits exceed the costs). If the programme is worth continuing, a further question arises: Who should pay for it - the general tax-paying public or the user, or both?

In the case of agriculture, the most obvious subsidies have been cash payments for production (e.g. Supplementary Minimum Prices) and cash subsidies for inputs (e.g. fertiliser). However, there have also been significant subsidies provided through low cost services provided to farmers (e.g. farm advisory services), subsidised services from which farmers receive significant benefits (e.g. agricultural pest destruction), and subsidised research.

The total value of subsidies to agriculture is difficult to estimate, but Table 1 gives some idea of the situation prevailing in 1983/84, prior to the introduction of the user pays concept.

Table 1: **Agricultural Subsidies, 1983/84**

	$million[1]
Subsidies on inputs (mainly fertiliser) and outputs (mainly SMPs on meat and wool)	405
Investment subsidies	
Irrigation and water supply	27
Increasing stock numbers (LIS) and developed land (LDEL)	30
Services	
Pest and disease control	20
MAF services to agriculture (advisory, inspection, etc)	95
Other research - primarily agricultural	93
Financial Concessions (1982/83)	275
Total	945

Source: Economic Management: Land Use Issues, Treasury, Wellington, 1984.

Since then, subsidies have been reduced. Fertiliser subsidies, land development encouragement loans, the agricultural investment allowance, the livestock incentive scheme and SMPs have been abolished; financial concessions to farmers (through the Rural Bank) and producer boards (through the Reserve Bank) have either been removed or greatly reduced; subsidies for irrigation and inspection services have been substantially lowered. Even advisory and research services are now being charged for. The 'user-pays' debate in agriculture has been focused on payment for these last services, but continually arises in relation to requests for other subsidies.

An often neglected, but extremely important, aspect of the user-pays debate relates to the property rights of various individuals which influence the decision as to who is the user. Take, for example, a flood protection scheme. Imagine that a farmer buys some forested land, clears the bush and plants it in grass, runs stock and then becomes aware of silting and flooding in the local catchment as a result of erosion and reduced water-retention. The flooding does not affect his farming

operation, but has a drastic impact on a neighbouring town. It is clear that a programme of destocking and reallocation will stop the flooding. Who should pay for this? Clearly, if the farmer has the right to do what he likes with the land regardless of consequences to others, then the town has to pay. However, if the farmer has the right to use his land as he sees fit only as long as it has no detrimental effects on others, then he should pay for the changes.

Similar considerations are vital in as many aspects of user-pays. Property rights have a historical and political dimension to them. Economics can help examine the implications but not decide what they should be.

Perfect markets lead to an appropriate allocation of resources from the viewpoint of efficiency. Frequently, perfect markets do not exist, and commodity subsidies may be used to 'correct' for this failure.

Commodity subsidies may be used as a means of redistributing income but they do so inefficiently and give rise to undesirable side effects:

(i) They give income to non-target groups (e.g. rich farmers as well as poor.

(ii) They obscure the level of support being given.

(iii) They encourage inefficiency when resources are diverted into areas of low return.

The existence of these side effects has made many economists wary of using subsidies to change income distribution. Specific cash grants (or tax rebates) to those who are identified as being in need are a more efficient method.

The large sums involved in agricultural subsidies have also led to intensive questioning as to whether market failure is evident. The main factors likely to be involved include:

1. social and market costs differ

2. public goods are involved

3. there are high transaction costs

4. economies of scale are present

5. market failure occurs elsewhere in the economy

6. ignorance is present to a large degree

7. risk aversion is a prime 'management' goal.

The last two factors do not necessarily indicate a need for government intervention. With respect to ignorance the Government may be no better informed than individual farmers, and in the second case society as a whole may have the same preference for risk as farmers.

In some industries, economies of scale prevail. Railways are often cited as an example. Roughly speaking, scale economies mean that as production increases, the average costs of production fall. In such rare circumstances, the desirable level of production required is greater than the firm can profitably provide - quite a curious situation. The only ways to get a level of output which is socially appropriate is to either subsidise production of the good or service, or practice discriminatory pricing. Thus efficient resource allocation may require a subsidy.

Production is beneficial to society as long as social benefits exceed social costs. If benefits and costs in the market are equivalent to these social benefits and costs, then a competitive market will work. However, sometimes market and social costs differ. A simple example concerns air pollution. A factory makes fertiliser but produces a horrible smell. The smell is a cost to nearby residents, but not to the company since the company does not have to compensate the residents. The smell is a 'negative externality' since it is external to the decisions of both producers and consumers of the fertiliser, and has a negative impact on society. Optimal resource allocation would require that the factory take the costs into account, and one way of doing this would be by levying a tax on 'smell production'.

There may be other distortions in the market which alter price signals, so that market prices no longer reflect social costs, particularly in cases where a subsidy or tax is appropriate. Then the subsidy should be paid on the item with the 'incorrect price' and not on some other article to compensate buyers of the first article (e.g. one should not subsidise fertiliser to compensate farmers for an over-valued exchange rate, but could subsidise the prices of export goods).

There are some cases where society as a whole perceives a benefit from various activities in which they are not directly involved. Education is an example. We value living in a community which has a good level of education and are prepared to subsidise it heavily.

In other cases, it is not possible to exclude people from using a good, like trying to keep people from using a national park. Moreover, it may not be desirable to do so if the marginal costs of use are very low. Such a good is termed a public good; an example is a lighthouse. No-one can be stopped from seeing its light, and its operating costs are not changed at all by the number of people looking at the light.

The problem with public goods is that every individual will try to leave provision of the good to others, yet the provision will depend on what the total community decides to make available. For example, defence is provided regardless of whether you contribute to the defence budget. Moreover, the quantity of defence will be virtually unaffected by your $100, but will depend on the $500 million provided by the rest of the community. Markets tend, therefore, to provide a less-than-desirable amount of public goods.

Frequently the recipients of subsidies are not the only beneficiaries. For example, farm fertiliser subsidies lead to increased fertiliser use and increased farm production for processing. This provides benefits to both the fertiliser industry and the processing industry. Lattimore (1986) estimated the distribution of benefits from SMPs, and estimated that farmers received 63 percent of the subsidy, consumers 14 percent, the processing industry 13 percent, and suppliers of farm inputs 10 percent. This final incidence of benefits depends on the nature of the markets within which production takes place. Depending on the rationale for implementing these subsidies, it could be argued that all these groups are beneficiaries and they should all contribute to the funding of the subsidy.

Sometimes, subsidised work undertaken by farmers may have benefits to other groups in society who do not compensate the farmer for the benefit. Perhaps it would improve both the quality of debate and the use of resources if we changed the argument to focus on 'beneficiary pays' rather than 'user pays'.

If the subsidy exists and is to continue, then it is necessary that the beneficiaries be identified in order that the subsidy can be funded in an appropriate way. An essential step in identifying the beneficiaries is to establish the justification for the subsidy. For example, if SMPs were bought in to compensate farmers for an over-valued exchange rate, then SMPs may be seen as an alternative to devaluation. But a devaluation would impose costs on all users of imports through higher prices so the beneficiaries of the SMPs which reduced the need for devaluation are really import users.

Similarly, if subsidies are introduced to offset other problems in the economy, then the true beneficiaries are those who benefit from the distortion. If the subsidies are introduced for purposes of increasing income, then it is pointless to identify the beneficiaries other than to see whether the subsidy is doing its planned job since user-pays is not a concept that one can usefully apply to the transfer to income. Imagine asking an unemployed person to pay for the unemployment benefit just received!

This discussion of situations in which a subsidy might be justified leads to the question: 'How should subsidies be financed?' The financing should avoid altering people's behaviour in a way which either negates the initial intention of the subsidy or leads to other distortions.

Subsidies paid for externalities should be paid for by those who benefit from the externalities. This may be the public at large, or some section of the public such as a regional population or a specific demographic group. In practical terms, it may be impossible to identify or tax such beneficiaries, particularly if the group is difficult to monitor.

However, in some cases the particular 'public' using the good can be identified, and the users charged. For example, research into crop farming might be funded by a levy on crop farmers. If crop farmers refuse to pay the levy, it may indicate that research benefits are indeed less than costs - in which case the research should probably cease. On the other hand it might also indicate that farmers: (1) have no money, (2) have a higher discount rate than society, (3) view risk and innovation differently or (4) are trying to be 'free riders'. In all cases the decision as to whether or not to continue the subsidy from a national output perspective has to be weighed against its undesirability from a social equity point of view.

In recent years, subsidies to agriculture have been justified as farm income support measures, offsets to an over-valued exchange rate or over-priced inputs, or as part of social policy to settle farmers onto the land. Subsidies have come about particularly in response to fiscal and macroeconomic policy instruments which have been installed for different reasons. A number of subsidies are now examined in the light of previous comments.

The subsidies on irrigation capital works were introduced in recognition of the fact that 'production is inhibited in some areas through lack of water', (Budget, 1977). This justification for increased production provided little obvious reason to favour public investments in irrigated farming. (As an aside however, note that the case for

subsidising irrigation operating and maintenance costs in, for example, Central Otago raises some interesting issues of property rights. Earlier Governments had made promises that if those owning water rights would give them to the Government, then the Government would maintain the supply of water to them. Thus 'user-pays' has to take into account the apparent existence of these property rights, and the fact that current farmers have paid for their land under the assumption that these property rights would be honoured.)

Where work is undertaken to reduce flooding, the beneficiaries are all those whose exposure to flooding has been reduced. This may include downstream owners of property (including public property such as bridges and roads). These downstream beneficiaries may be identified as 'the public' (although it could be argued as to whether it is the national or the regional public), in which case the public should pay part of the cost. Note also the relevance here to property rights issues.

Generally, education is seen as a merit good, and the community is prepared to pay for it. However, as education becomes more specifically related to profit, the benefits of extra education accrue more and more to the student, and less and less to society. In the case of agricultural advisory services, the majority of benefits accrue to the farmer. However, there are several other issues to be addressed with regard to advisory services.

Firstly, additional knowledge tends to become a public good over time since use by one person does not preclude use by another. Nor is it easy to exclude another person from acquiring that knowledge. So this public good should be provided freely. Secondly, distribution of knowledge is not a public good. Conveying advice to farmers benefits primarily those farmers getting the advice directly, even though the results of those discussions are generally passed on informally to the neighbours. Thus, farmers should pay for that information, (except to the extent that farmer education is viewed as a merit good). Thirdly, when an advisor comes to a farm there is usually a two-way flow of knowledge. Should the advisor pay the farmer for the time taken and the information gained?

A justification for forcing potential beneficiaries to fund research is that they are short-sighted or are not fully aware of the benefits of research. The research is good for them but they don't realise it. To let them not fund research, and to leave the research undone, is not in their best interests, so forced subsidisation is justifiable. Also, they cannot be excluded from enjoying the benefits of research so they should be forced to pay to prevent the 'free rider' problem from arising.

The value of research is frequently unknown before it is completed, and even then its value may not become apparent for many years. Frequently, it is not clear who will benefit from the research, since research results from one field can be, and often are, transferred to an entirely different field.

Two issues are involved here, both of which suggest a justification for government funding of research. The first is the riskiness of research. Most organisations are averse to risk, yet if all the individuals of society shun risky research, then the whole of society loses. Government, however, is sufficiently large to carry the risk of research. There will be good projects and bad projects, but it is to be hoped that the benefits will outweigh the costs so that on balance society will gain. It is clear that the useful research will benefit some producers and consumers, but those groups cannot be identified or charged when the research is done.

The second issue is the public nature of research results. Some research is of benefit to such a wide section of the community that it should be publicly funded. All research, once completed, is a 'public good' in that use by one person does not preclude use by another (i.e. the marginal cost is zero), and it is difficult to establish and maintain ownership of the research results. In these situations observation of the real world shows that public goods will be under-provided.

The recent implementation of user-pays has brought some unexpected results which are indicative of problems likely to occur in future if user-pays is introduced in inappropriate areas. In National Parks where hut fees per night have increased dramatically, revenues have actually fallen. People are either not using the huts (inefficient resource allocation - at least in the short term) or are using the huts but not paying what they consider to be an unreasonable fee. This is a case where the resource ought to be treated as a public good, and an appropriate price would be low.

Typically, departments are being asked to recover a percentage of their costs, with the percentage rising each year. The departments are looking for paying work and are competing with private sector groups and other publicly funded agencies. In the early years, when they have to recover only part of their costs, they are able to undercut prices charged by private sector competitors, and possibly squeeze them out of the market. This is a problem where it leads either to a lack of long term competition, or where it causes an exit of skilled people from the labour market.

In summary, the major beneficiaries of many subsidised services are those who use the services. Other groups also get some benefits, especially where the subsidy is paid to offset a market distortion elsewhere. These groups should pay for some proportion of the subsidy. There are cases where user pays is inappropriate and will lead to an inequitable allocation of resources such as when there are public goods, or where production is particularly risky. Research on many potentially socially beneficial topics is an example of such an area.

The implementation of user pays either in inappropriate areas or under inappropriate methods will likely cause problems in the longer term for which society as a whole will be the loser.

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Chapter 30

Summary and Conclusions: Tough Decisions Ahead

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The most pleasing thing to us as editors was finding such a consistency of themes about New Zealand agriculture from such a diverse set of authors, representing such high calibre and experience. We interpret this in part as the thoughtful study and communication the authors have had with many people, and in part to a coming together of different opinions that indeed it is now time to look anew at rural New Zealand and the role it will play in the country's future.

The rural economy continues to make a major contribution to New Zealand society (Hawke, Eastern, Ross). If the rural economy is considered broadly to include the wide range of activities that surround food and fibre production the rural share has declined to some extent. If farming alone is considered, the rural share has been reduced more dramatically. At the same time the range of activities in rural areas has developed considerably to include a broadening and deepening of: tourist and recreational enterprises, intensive agricultural and horticultural pursuits on smaller farms, craft industries and farming as a second occupation. These developments will continue to flourish, on average, through the ingenuity and innovation of a large share of New Zealand's resources, human and physical, which reside in rural areas.

In these uncertain times it is helpful to draw together those elements that establish the environment we live and work in as a nation - elements over which we have little national or individual control.

The authors all point to change for the country as a whole in the future. They also indicate there is really no escape from these forces of change: technology, communication, international relations and economic policies (MacArthur, Wallace, Lattimore). We can choose to participate and benefit from these international linkages to a lesser extent (Rosenberg) or to a greater extent (Rayner, Lattimore, Lewis). Whatever the choice we can only live beyond our means to the extent that we are prepared to mortgage the income of our children.

The impacts of previous economic and technological forces are shown in changes in farm size, in the rural work force, the capital needs of agriculture and the inevitable competition for limited amounts of land and water (Fairweather, Tipples, Pryde and Kerr). These threads are woven into more intricate patterns of rural living in discussions of past, present and future farm and agribusiness opportunities (Ross, Frengley, Wallace, Juchau and Newman). The 'on-farm' results can be summarised by saying New Zealand will have fewer farms but clustered around two general sizes. The first will be of relatively large commercial farms, many with contracts or participation involving vertically integrated firms which produce value added food items rather than raw food materials. The second cluster will be of smaller farm operations, tended by people who have a real interest in rural affairs and agriculture, but who draw their livelihoods primarily from non-farm employment.

These outcomes are neither good or bad in the conventional sense. The point of view depends upon whether the observer believes he/she benefits or loses as a result of the changes. Other points of view are expressed outlining the seeming inevitability of certain decisions about economic and social 'progress' in rural areas (Wallace), and a perspective of farm women and Maori interests in the effective participation concerning those decisions (Grigg, Sandrey).

Market awareness is introduced in many places. In fact, the notion pervades the chapters as the authors offer a realisation that New Zealand's size and productive potential needs, increasingly, to be presented on a larger scale than ever before. For example, the decision to reduce our isolation from the world economic environment meant higher material rewards for New Zealanders (Hawke). Yet in a seemingly peculiar fashion increased international economic exposure may actually have reduced our vulnerability rather than increased it. To see this argument we need only consider recent policies: did SMPs increase or reduce the vulnerability of the sheep farmers, has the synthetic fuel plant at Motunui increased or decreased our vulnerability to major dislocations of world trade (Rosenberg, Lattimore)?

The isolationist approach may involve lower growth in overall living standards and it may entail greater vulnerability to world events, but it has the advantage that it increases the nations perception of control over its destiny.

The greater the degree of international exposure of New Zealand's economy the greater the potential growth for rural and allied resources.

What resources will grow and who will benefit? Again the market approaches are explored (Schroder, Lattimore, Lewis). It is pointed to again and again that there is a persistent myth about the omnipotency of the independent producer who owns the land. It simply is not so. The great numbers of farmers ensure that they will be price takers. Unless there is some way to develop markets which can absorb sufficient quantities of value added, high quality food items of which New Zealand producers can be a 'cooperative part', the individual farmer will always be scrambling in direct response to economic forces rather than profit as a leader who grows something he/she has found the market wants.

Attempts to differentiate the market, know it, and use it well are explored (Schroder, Cartwright, Brodie and Van Ameyde). The benefits of individual producer control, cooperative control, and organisational effort are explored and evaluated (Rae, Zwart, Martin, Lewis). Certain conclusions are inescapable: there is strength in numbers; cooperative action well managed and monitored is key to any successful production/marketing effort; market aware product differentiation will bring profits; yet everyone pursuing the same thing with the same commodity will lead to economic surplus and failure. There are limits to what any individual or group can achieve.

Because private sector firms realise certain geographic and economic bounds there exists a role for Government to play. It is clear that the national focus is turning away from the SMPs of former years, the protected markets and subsidised inputs to farm production. Increasingly, though many other nations still persist along these lines, farmers and processors appreciate that the perceived benefits of those past policies will be unsuccessful if revisited to any great degree in the future; and that they were probably not as economically viable for the the country as a whole as was once thought. What should the role of Government be? There are many persuasions ranging from 'fortress New Zealand', to 'free trade' (Rosenberg, Lattimore, Rayner, Ross, Hawke). Public reaction to these past policies is freely expressed. Some authors are doubtful about the ability of agriculture to right itself by itself, others are restless to get into gear (Rosenberg, Kneebone, Johnson, Pryde, Grigg).

Throughout, there is the persisting question of who can or ought to pay for services rendered by public agencies (Butcher, MacArthur, Rayner). National goals are important guidelines for decisions about this question. The public purse is not a bottomless treasure chest, dispersed by a philanthropist embued with drives of social justice, economic growth, income equity and stability, and freedom of individual action. The built-in inconsistencies within such social/political goals means some type of compromise is inevitable. The questions are: what kinds of compromise, about what items, who will benefit/pay, and is the outcome politically acceptable? The last item is important because we are a democracy, trying in various ways to survive, to do the best job we can, and contribute to the informed leadership of agriculture, rural areas, and the country.

Perhaps the greatest challenges presented by the authors concern changes in attitude - towards ourselves, about rural and urban priorities, about using land and water, about old market ties and new market opportunities. It is acknowledged that Kiwi ingenuity is a reality; it is also acknowledged that it has often been too finely focused on farm production, and not slanted outward enough to world markets, world concerns, and consumer desires.

For example, while land ownership is prized by almost all farmers the effort of attaining this ownership has recently been the downfall of many of New Zealand's promising young farmers. For over a century ownership of land per se has been the least important agricultural resource; the most important being the human capital on farms - the skills, knowledge, drive, entrepreneurship and inventiveness of people. Almost all the contributors note this attribute, yet somehow its recognition gets lost between public acclaim and policy actions.

Market volatility and therefore national vulnerability is noted. The decline of agriculture as 'the only' export sector indicates the positive growth of the non-farm economy. New Zealand's economic future doesn't have to rest solely on the shoulders of its farmers and agriculture. There is, and should be, plenty of room for all kinds of economic endeavour. But it will call for a change in attitude, an admission that while agriculture can increase, it can also play a declining role in the course of the nation. That perspective necessitates viewing agriculture and its needs broadly.

Issue by issue agriculture will need to seek effective coalitions, often with those entities with which it has fought in the past. Yet the future livelihood of rural New Zealand will need to draw more and more on voting partners when debates and decisions about land and water use,

regional development, resource development, fisheries, environment, international trade and national fiscal policies arise. Increased competition for limited public revenues is inevitable between rural and urban residents; and so it will be, too, for the use of all the country's resources.

Changes in land prices, in the value of forests, market shares or the volatility of commercial commodity markets do not spell the end to rural areas. Business cycles, livestock cycles, and population growth all contribute both to volatility and growth potential. The thing all authors guarantee is, simply, that it is highly likely the future will not be like the past, and that in the change process some people (communities) will lose while others will gain.

Our authors have not all agreed on the goals or directions in which rural New Zealand should be headed. Nor have they agreed about who will win and who will lose. That situation was intended by us as editors because we believe the specific answers about rural New Zealand need to come from you, the readers. The appropriate balance of private sector and government leadership will evolve, certainly. It will be the better, however, for your thought and consideration. The decisions and outcomes will depend to a great extent upon how each of us assesses risk - personal, professional, and public.

When it is all said, when the forces of change are reckoned and assessed, what are we really looking at in the years ahead? If producers aren't technologically and financially competent managers they will face increasingly tough times. Avenues to more profit and greater risks lie through differentiation of some kind for either fresh or processed items. Value added items offer promise, and challenge a blending of farmer/processor/marketeer imagination and creativity. The effort begins with effective market research which outlines a product - have no fear, New Zealanders can produce it once it is identified.

These requirements will winnow the farm community. It will offer opportunity and entrepreneurial challenge to suppliers of new inputs, processors of new food items, financial managers, and the rest of the consumer aware food industry - retail food stores, restaurants and publicly sponsored institutional food outlets.

Some rural communities will decline as new commercial and social patterns evolve; others will grow. Progress, our authors say, is not an even progression across the landscape. Personal values inevitably become interlaced with policy decisions. Leadership positions will evolve requiring the deepest and best commitment each of us can muster.

We have to do it to remain internationally productive, a contributor to world events. We can do it. We will do it - well.